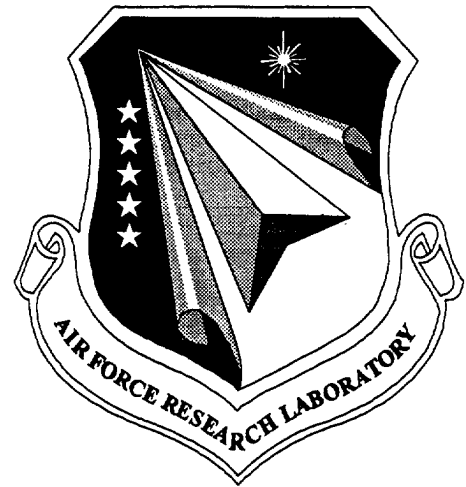


AFRL-VA-WP-TR-1999-3019

**AN EXPERIMENTAL INVESTIGATION
OF TANGENTIAL BLOWING TO
REDUCE BUFFET RESPONSE OF THE
VERTICAL TAILS OF AN F-15 WIND
TUNNEL MODEL**

VOLUME 2 -- RESPONSE DATA



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WRIGHT-PATTERSON AFB, OH 45433-7542**

JANUARY 1999

FINAL REPORT FOR 06/01/1996 – 12/31/1998

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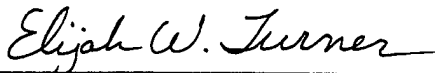
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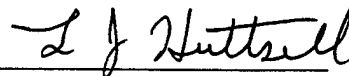
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This technical report has been reviewed and is approved for publication.



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Integrated Product Team



NELSON D. WOLF
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REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE JANUARY 1999		3. REPORT TYPE AND DATES COVERED FINAL REPORT FOR 06/01/1996 - 12/31/1998
4. TITLE AND SUBTITLE AN EXPERIMENTAL INVESTIGATION OF TANGENTIAL BLOWING TO REDUCE BUFFET RESPONSE OF THE VERTICAL TAILS OF AN F-15 WIND TUNNEL MODEL; VOLUME 2 - RESPONSE DATA			5. FUNDING NUMBERS C F33615-94-C-3200 TASK 3413-31 PE 62201 PR 2404 TA 49 WU 51	
6. AUTHOR(S) MARTY A FERMAN, PH.D., P.E., CONSULTANT FOR CSA ENGINEERING ELIJAH W. TURNER, P.E., WRIGHT-PATTERSON AFB, OH				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) CSA ENGINEERING STRUCTURES DIVISION 2850 BAYSHORE ROAD DESIGN AND ANALYSIS BRANCH PALO ALTO, CA 94303-8794 WRIGHT-PATTERSON AFB, OH 45433-7542			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) AIR VEHICLES DIRECTORATE AIR FORCE RESEARCH LABORATORY AIR FORCE MATERIEL COMMAND WRIGHT-PATTERSON AFB, OH 45433-7542 POC: ELIJAH W. TURNER, AFRL/VASD, 937-255-7229			10. SPONSORING/MONITORING AGENCY REPORT NUMBER AFRL-VA-WP-TR-1999-3019	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION AVAILABILITY STATEMENT APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) This is Volume 2 of AN EXPERIMENTAL INVESTIGATION OF TANGENTIAL BLOWING TO REDUCE BUFFET RESPONSE OF THE VERTICAL TAILS OF AN F-15 WIND TUNNEL MODEL. This volume presents the detailed PSD graphs and summary tables of rms response data from those graphs. To aid with the comprehension of this data, figures from Volume 1 showing the model, setup, and model instrumentation are repeated here. The reader will most likely have to refer to Volume 1 of added tie-in.				
14. SUBJECT TERMS UNSTEADY AERODYNAMICS, PRESSURE MEASUREMENTS, BUFFETING FLOW, WIND TUNNEL TEST, EXPERIMENTAL DATA, PRESSURE TRANSDUCERS			15. NUMBER OF PAGES 641	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT SAR	

TABLE OF CONTENTS

FOREWORD	Page
	iv
1. TEST SETUP, MODEL, INSTRUMENTATION, DATA SETUP, ETC.	1
2. DIMENSIONAL BENDING AND TORSION DATA	8
2.1 Q=56 PSF	8
2.1.1 PSD GRAPHS	8
2.1.1.1 WBP=0, 45, 65 psi	9
2.1.1.2 GBP=65 psi	110
2.1.1.3 GBP=65 psi, WBP=65 psi	126
2.1.1.4 NBP=87 psi	142
2.1.1.5 NBP=87 psi, GBP=65 psi	159
2.1.1.6 NBP=87 psi, WBP=65 psi	176
2.1.2 RMS SUMMARY TABLES	192
2.2 Q=30 PSF	203
2.2.1 PSD GRAPHS - WBP=0, 45 psi	203
2.2.2 RMS SUMMARY TABLES	224
3. NONDIMENSIONAL BENDING AND TORSION DATA	249
3.1 Q=56 PSF	249
3.1.1 PSD GRAPHS	249
3.1.1.1 WBP=0, 45, 65 psi	250
3.1.1.2 GBP=65 psi	296
3.1.1.3 GBP=65 psi, WBP=65 psi	312
3.1.1.4 NBP=87 psi	328
3.1.1.5 NBP=87 psi, GBP=65 psi	344
3.1.1.6 NBP=87 psi, WBP=65 psi	360
3.1.2 RMS SUMMARY TABLES	376
3.2 Q=30 PSF	380
3.2.1 PSD GRAPHS - WBP=0, 45 psi	380
3.2.2 RMS SUMMARY TABLES	401
4. ACCELERATION DATA - LINEAR, BENDING AND TORSION	403
4.1 PSD GRAPHS	403
4.1.1 Q=56 PSF	403
4.1.1.1 FWD AND AFT ACCELS	404
4.1.1.2 BENDING (LINEAR at EA)	465
4.1.1.3 TORSIONAL (ANGULAR AT EA)	528
4.1.2 Q=30 PSF	559
4.1.2.1 FWD AND AFT ACCELS.- PSD'S	559
4.1.2.2 BENDING (LINEAR at EA)	592
4.1.2.3 TORSIONAL (ANGULAR AT EA)	662
4.2 RMS SUMMARY TABLES	639

FOREWORD

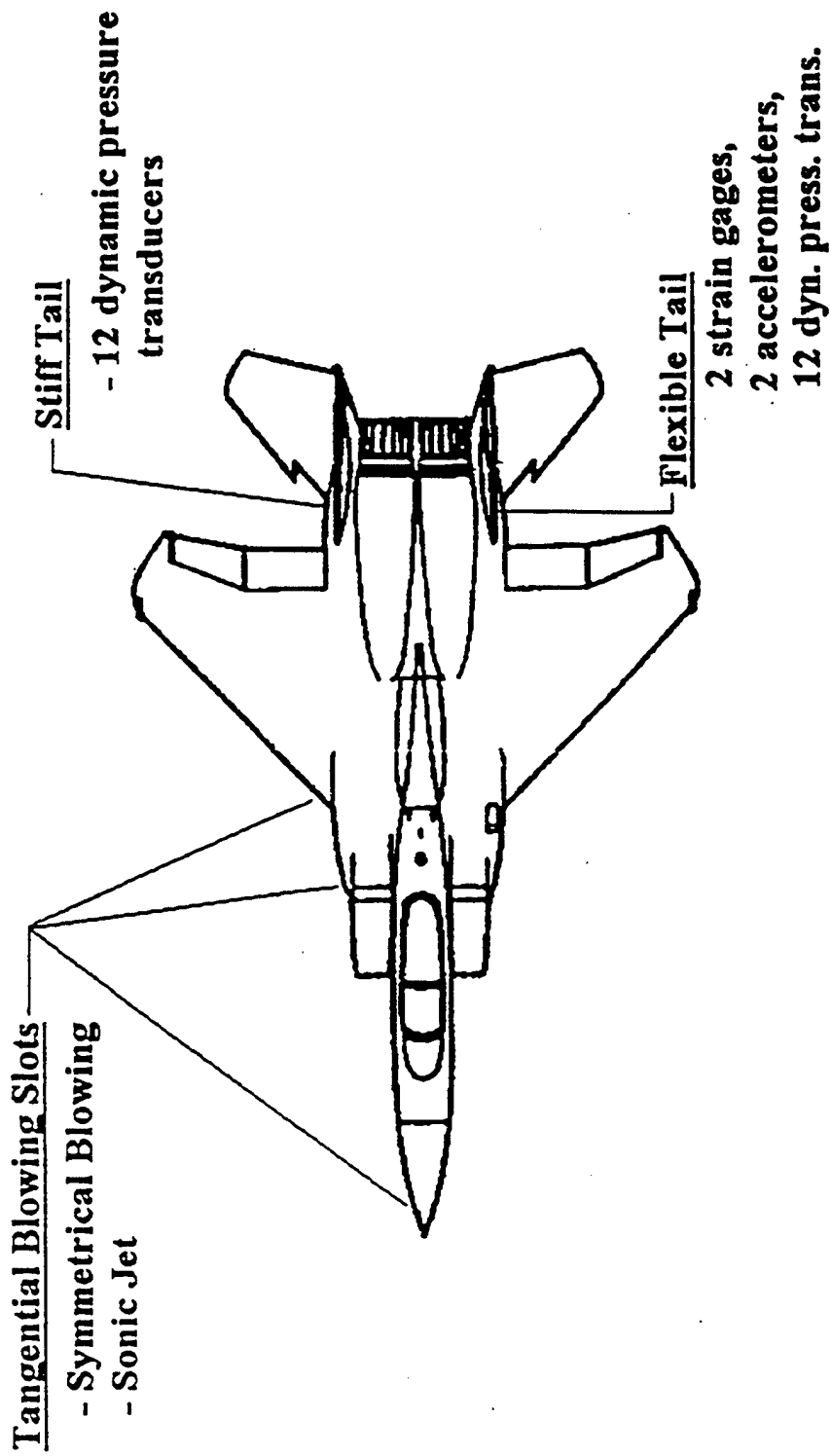
This report was prepared by Dr. Marty Allen Ferman, Consultant for CSA Engineering of Palo Alto, California. The work was performed under Contract F33615-94-3200, Task 3413-31 for the Air Vehicles Directorate of the Air Force Research Laboratory, Wright-Patterson Air Force Base, Ohio. Mr. Elijah W. Turner was the Air Force Project Engineer. This effort was sponsored by the Unsteady Aerodynamics Integrated Product Team (IPT) of the Air Vehicles Directorate, Air Force Research Laboratory. Mr. Lawrence J. Huttshell was Chairman of the IPT.

The work by Dr. Ferman was conducted between 15 June 1996 and 15 October 1998 under job order number 24044951. The data presented in this report were reduced by Mr. Dansen Brown of the Acoustics and Sonic Fatigue Branch, Structures Division, Air Vehicles Directorate, Air Force Research Laboratory from the 4.7% F-15 Vertical Tail Buffet Test.

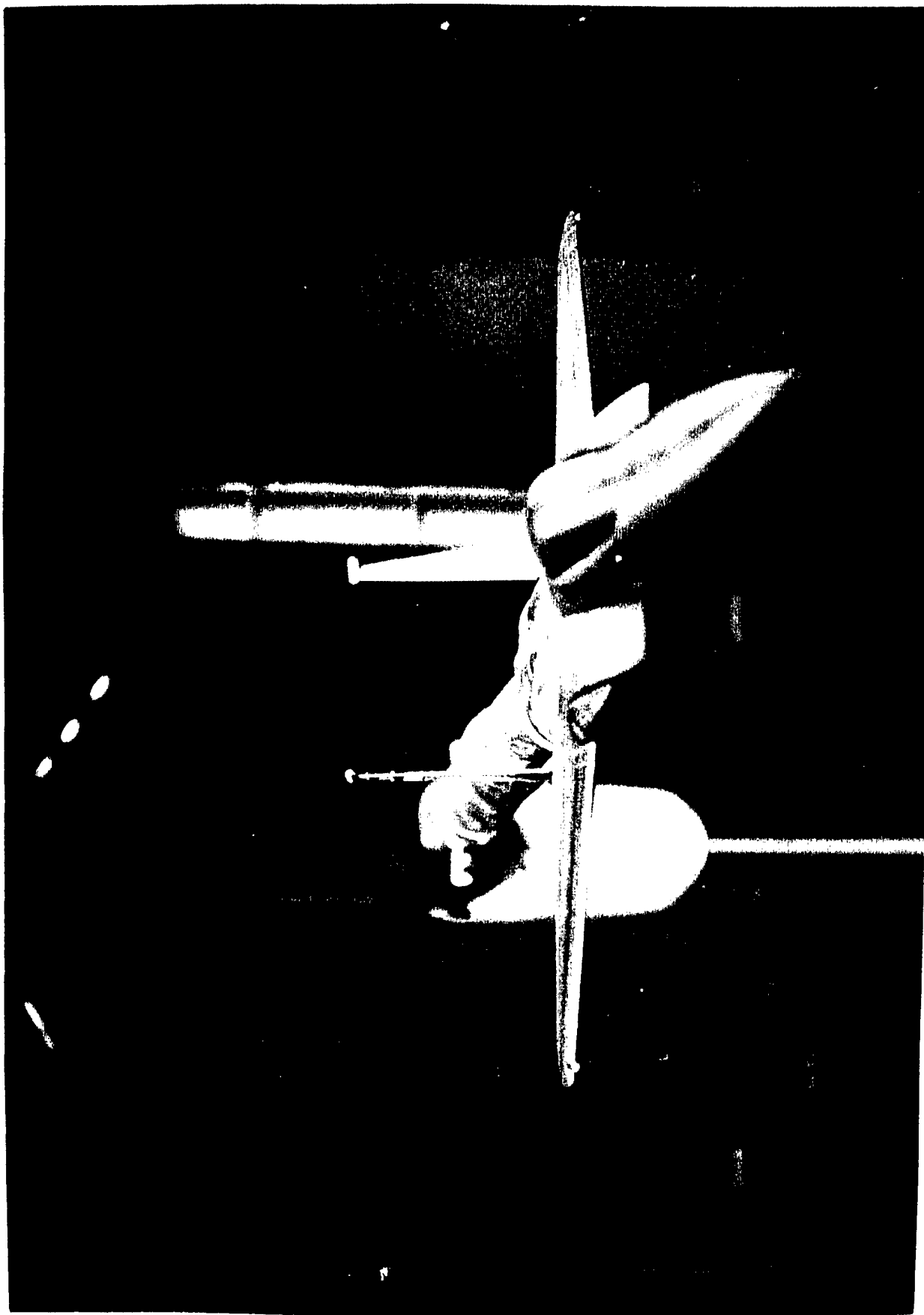
The Buffet Tests were conducted in the Subsonic Aerodynamics Research Laboratory (SARL) wind tunnel at Wright-Patterson Air Force Base in October and November of 1995. The Test Engineer was Mr. Jon Tinapple of the Aerodynamic Configuration Branch, Aeronautical Sciences Division, Air Vehicles Directorate, Air Force Research Laboratory.

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This report was submitted in January 1999 for publication as an Air Force Research Laboratory Technical Report.



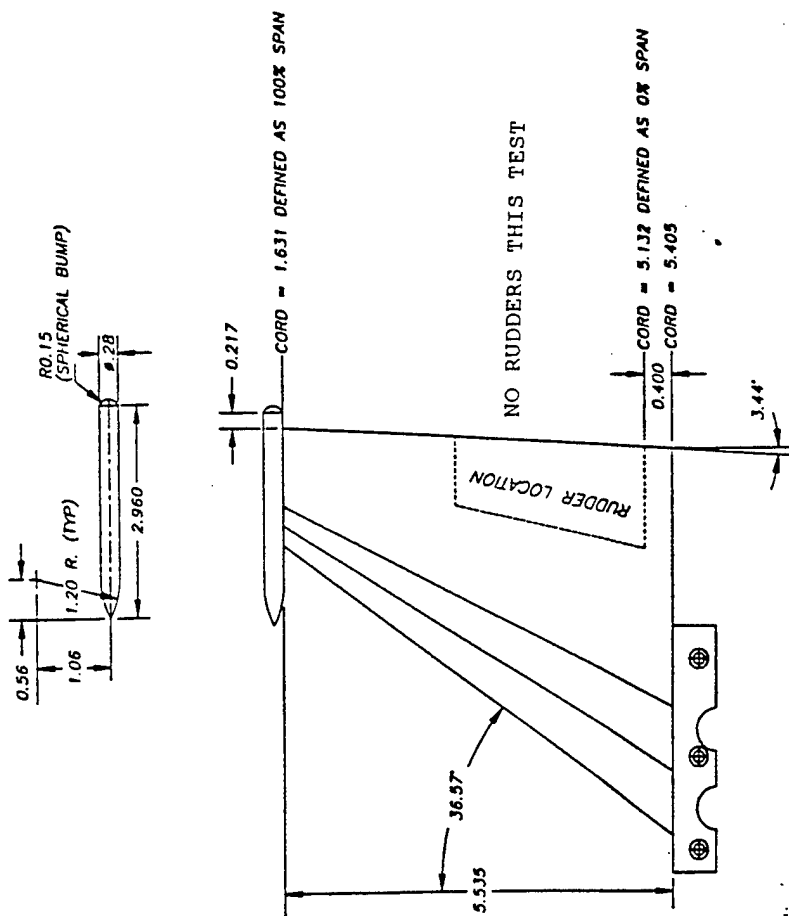
PLANVIEW OF 4.7 % F-15 WIND TUNNEL MODEL



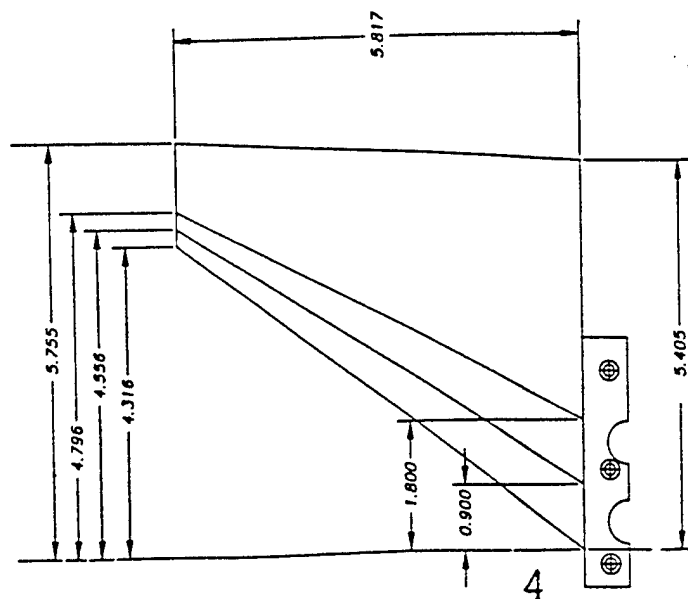
4.7 % BUFFET MODEL IN WIND TUNNEL



4.7 % MODEL - VIEW FROM FLEX TAIL SIDE

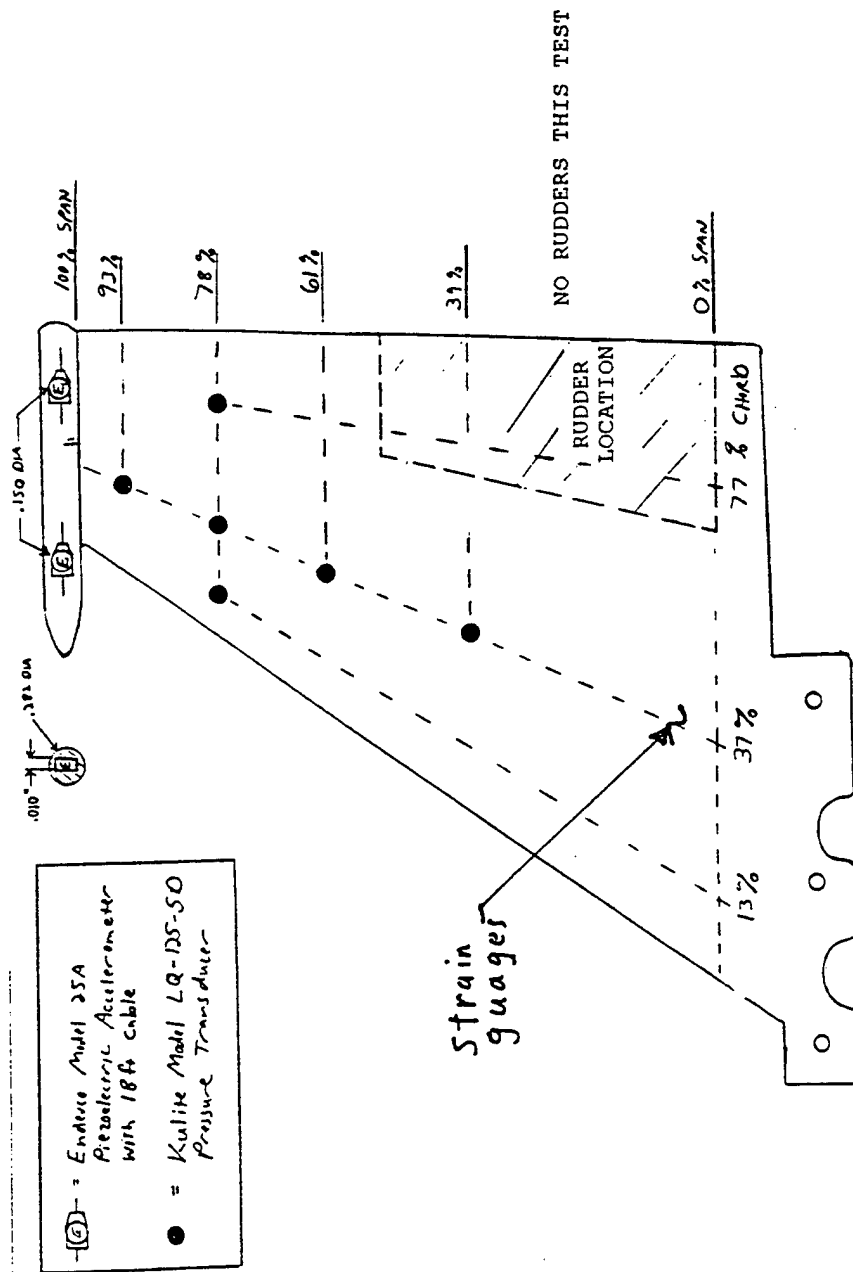


DETAILS OF VERT. TAIL WITH TIP POD

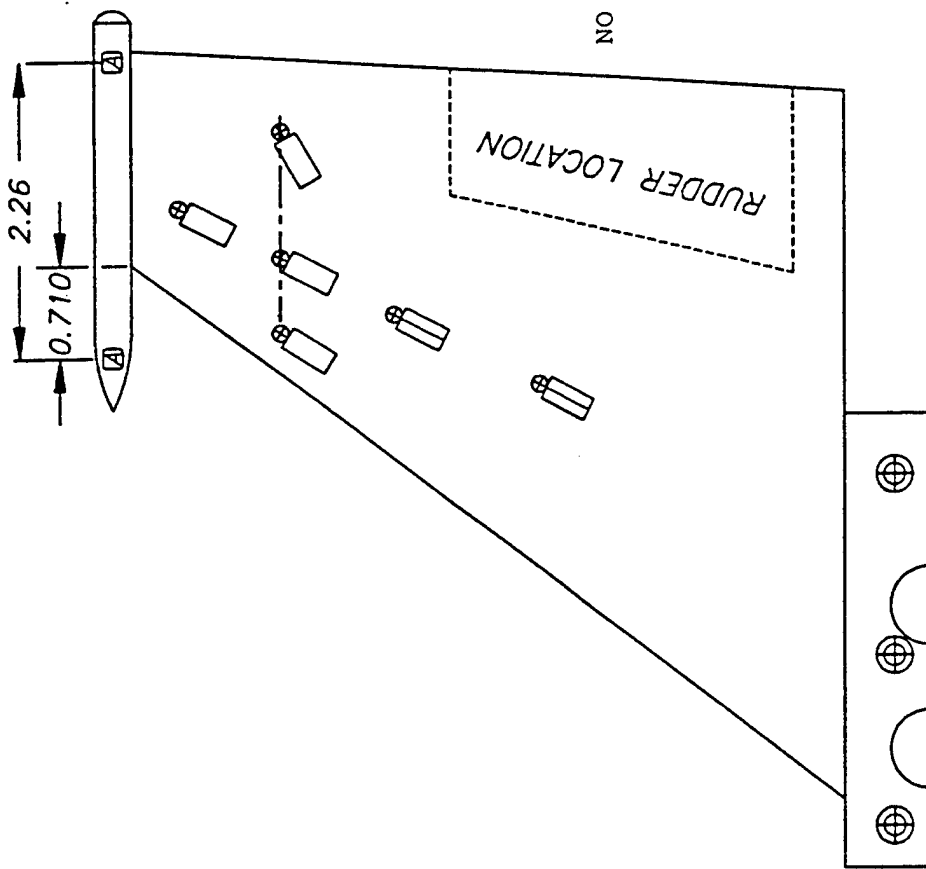


VERT. TAIL GEOMETRY WITHOUT TIP PODS

GEOMETRY OF 4.7% SCALE VERTICAL TAIL

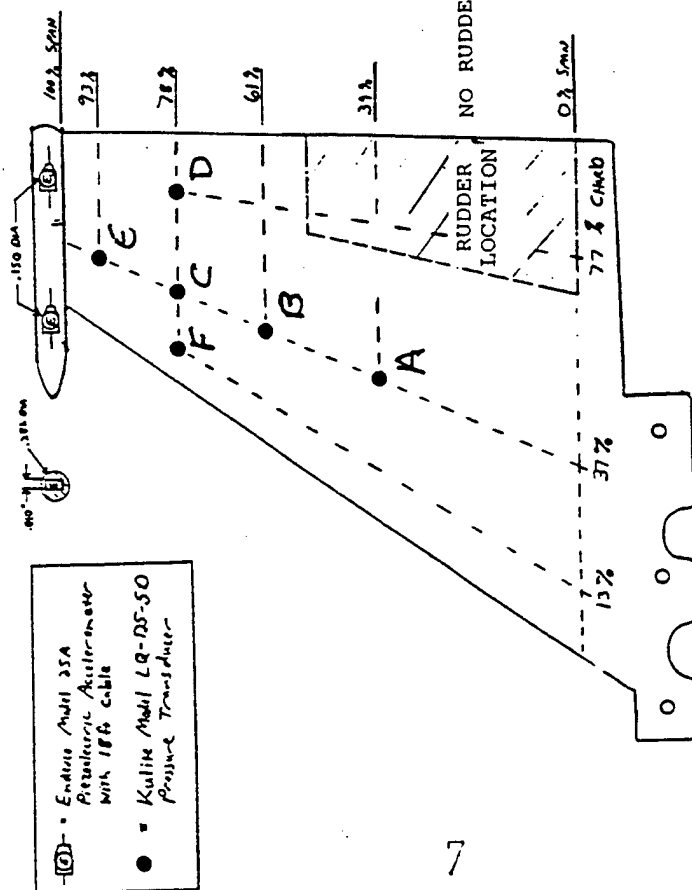


INSTRUMENTATION LAYOUT ON FLEXIBLE VERTICAL TAIL

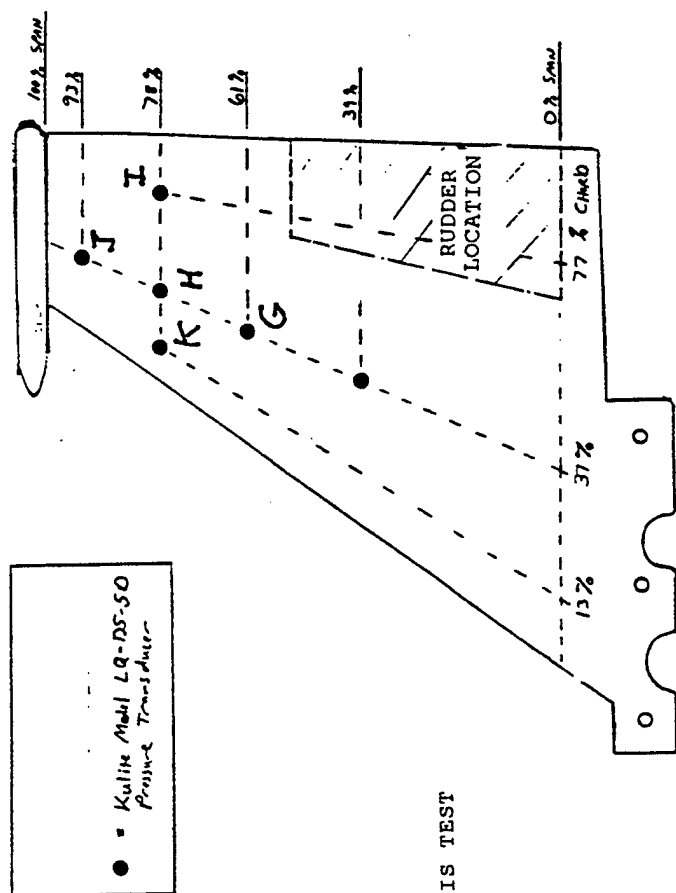


PRESSURE TRANSDUCER LAYOUT - BOTH TAILS

FLEXIBLE TAIL



RIGID TAIL



NO RUDDERS THIS TEST

PRESSURE TRANSDUCERS- LETTER IDENTIFICATION

**FLEXIBLE TAIL RESPONSE
BENDING AND TORSION**

2.1 Q=56 PSF

2.1.1 PSD GRAPHS

2.1.1.1 WBP = 0, 45, 65 psi,

2.1.1.2 GBP = 65 psi

2.1.1.3 GBP = 65 psi, WBP = 65 psi

2.1.1.4 NBP = 87 psi

2.1.1.5 NBP = 87 psi, GBP = 65 psi

2.1.1.6 NBP = 87 psi, GBP = 65 psi

2.1.2 RMS SUMMARY TABS

**FLEXIBLE TAIL RESPONSE
DIMENSIONAL BENDING AND TORSION**

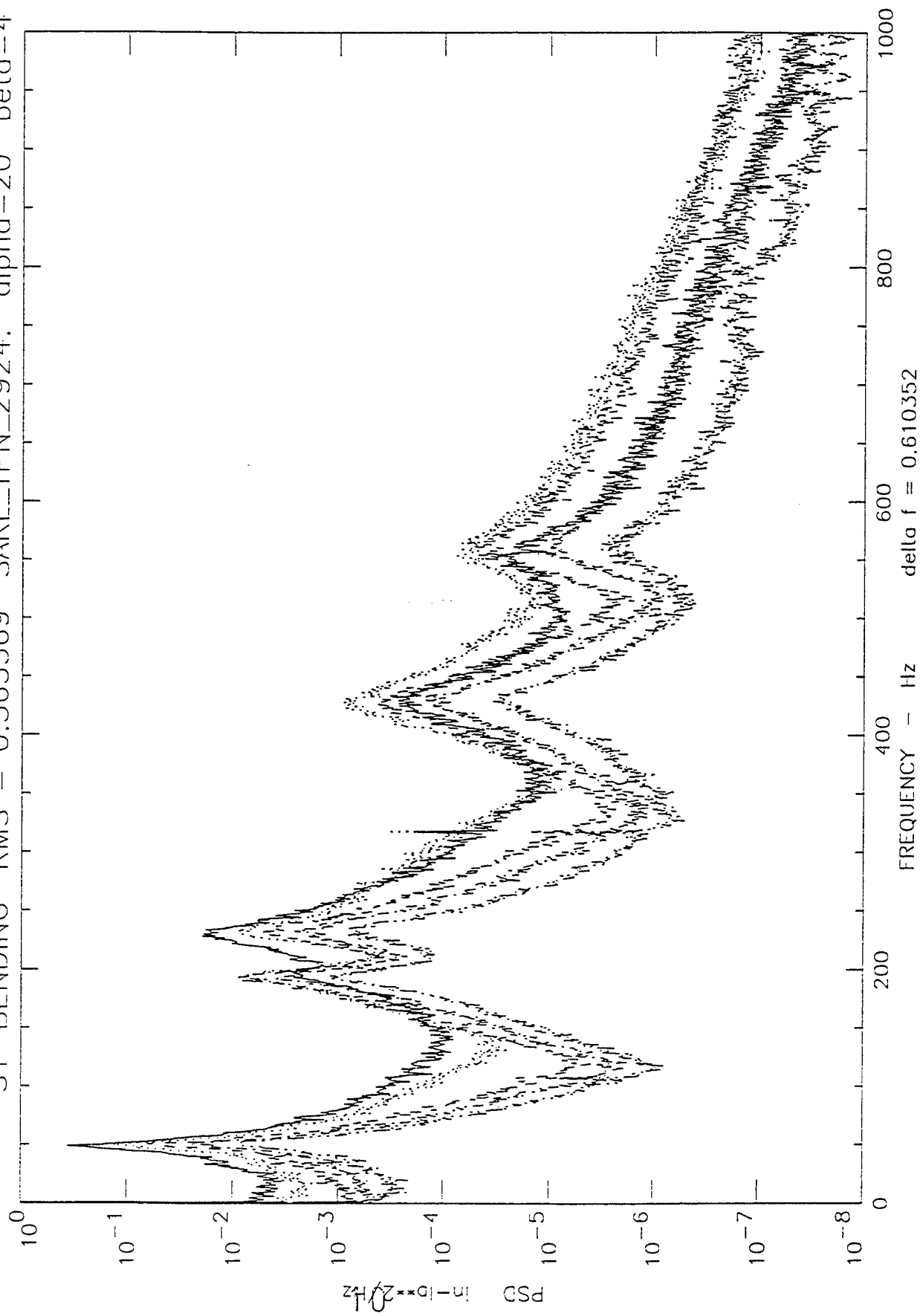
PSD GRAPHS

Q= 56 PSF

2.1.1.1 WBP = 0, BETA= 0, + 4, - 4, ALPHA= 0.....32 Deg

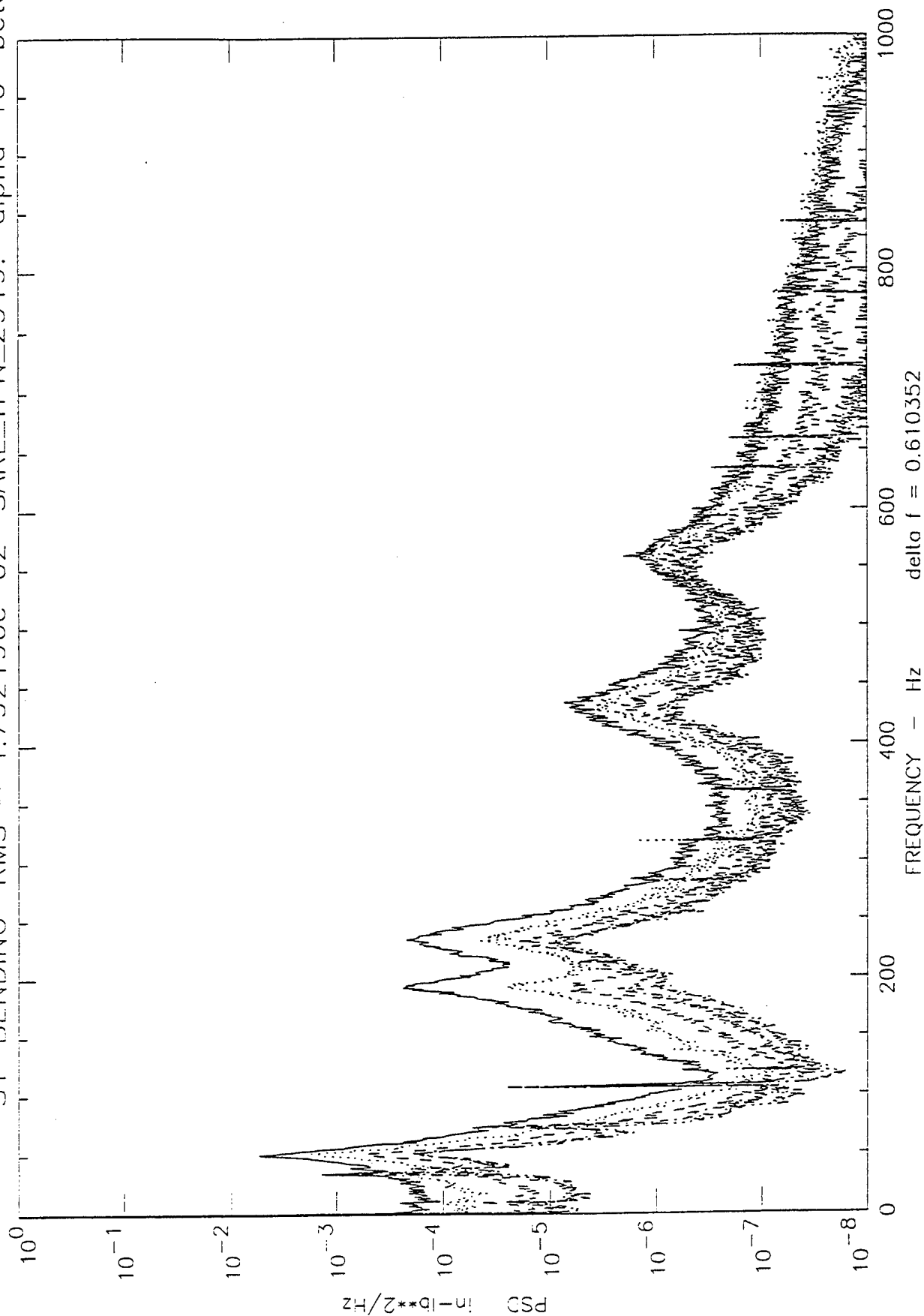
F=15 V lical Tail Buffet Test: Q=56, Flexible, o Blowing

---	S1-BENDING	RMS = 1.62116	SARL_TPN_2928:	alpha=32	beta=4
---	S1-BENDING	RMS = 1.13775	SARL_TPN_2927:	alpha=28	beta=4
---	S1-BENDING	RMS = 0.796603	SARL_TPN_2926:	alpha=24	beta=4
---	S1-BENDING	RMS = 0.547720	SARL_TPN_2925:	alpha=22	beta=4
---	S1-BENDING	RMS = 0.363569	SARL_TPN_2924:	alpha=20	beta=4



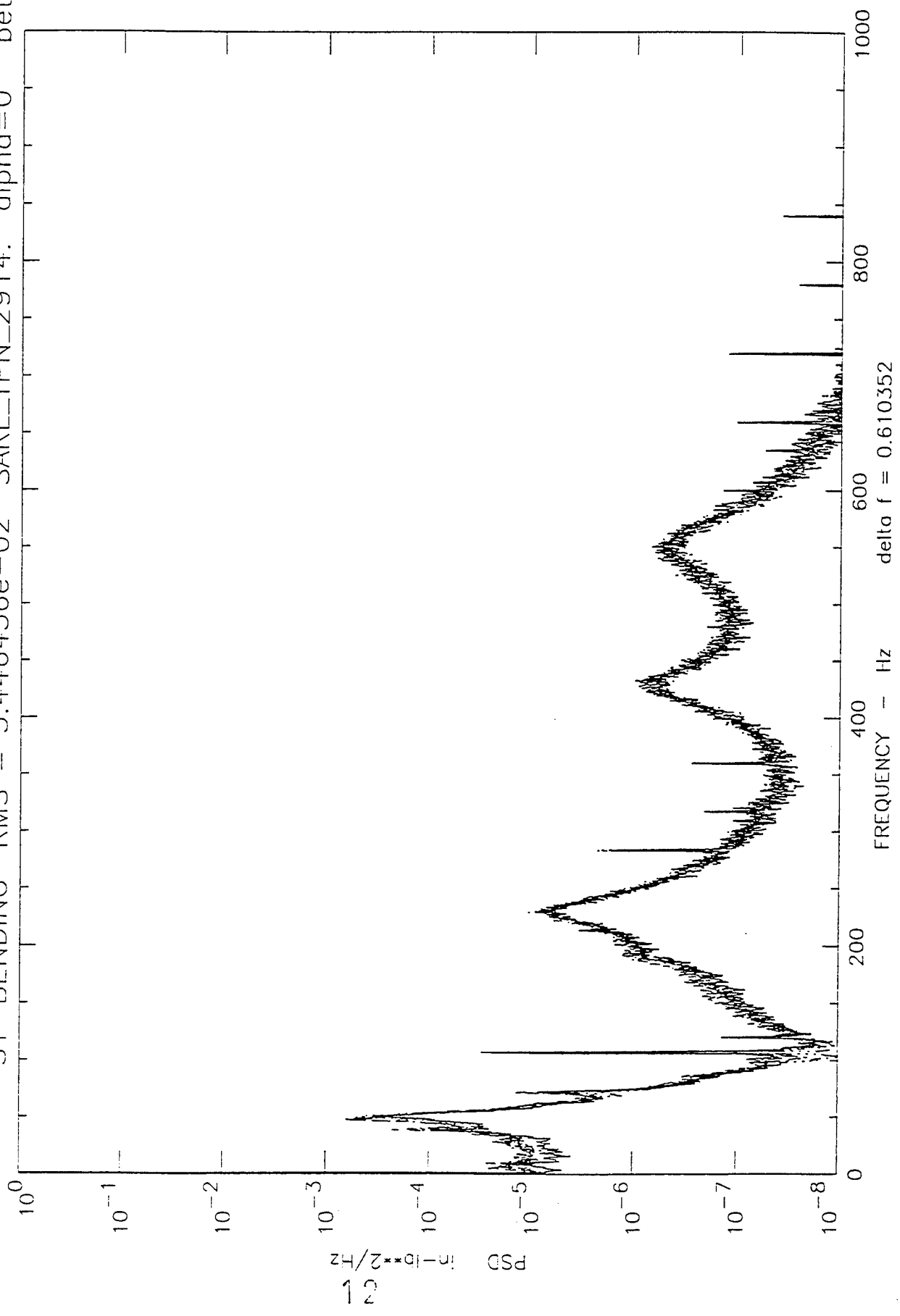
F-15 V ical Tail Buffet Test: Q=56, Flexible, o Blowing

--- S1-BENDING RMS = 0.230202 SARL_TPN_2923: alpha=18 beta=4
 S1-BENDING RMS = 0.136720 SARL_TPN_2922: alpha=16 beta=4
 - - - S1-BENDING RMS = 8.308680e-02 SARL_TPN_2921: alpha=14 beta=4
 - - - S1-BENDING RMS = 5.462211e-02 SARL_TPN_2920: alpha=12 beta=4
 - - - S1-BENDING RMS = 4.792196e-02 SARL_TPN_2919: alpha=10 beta=4



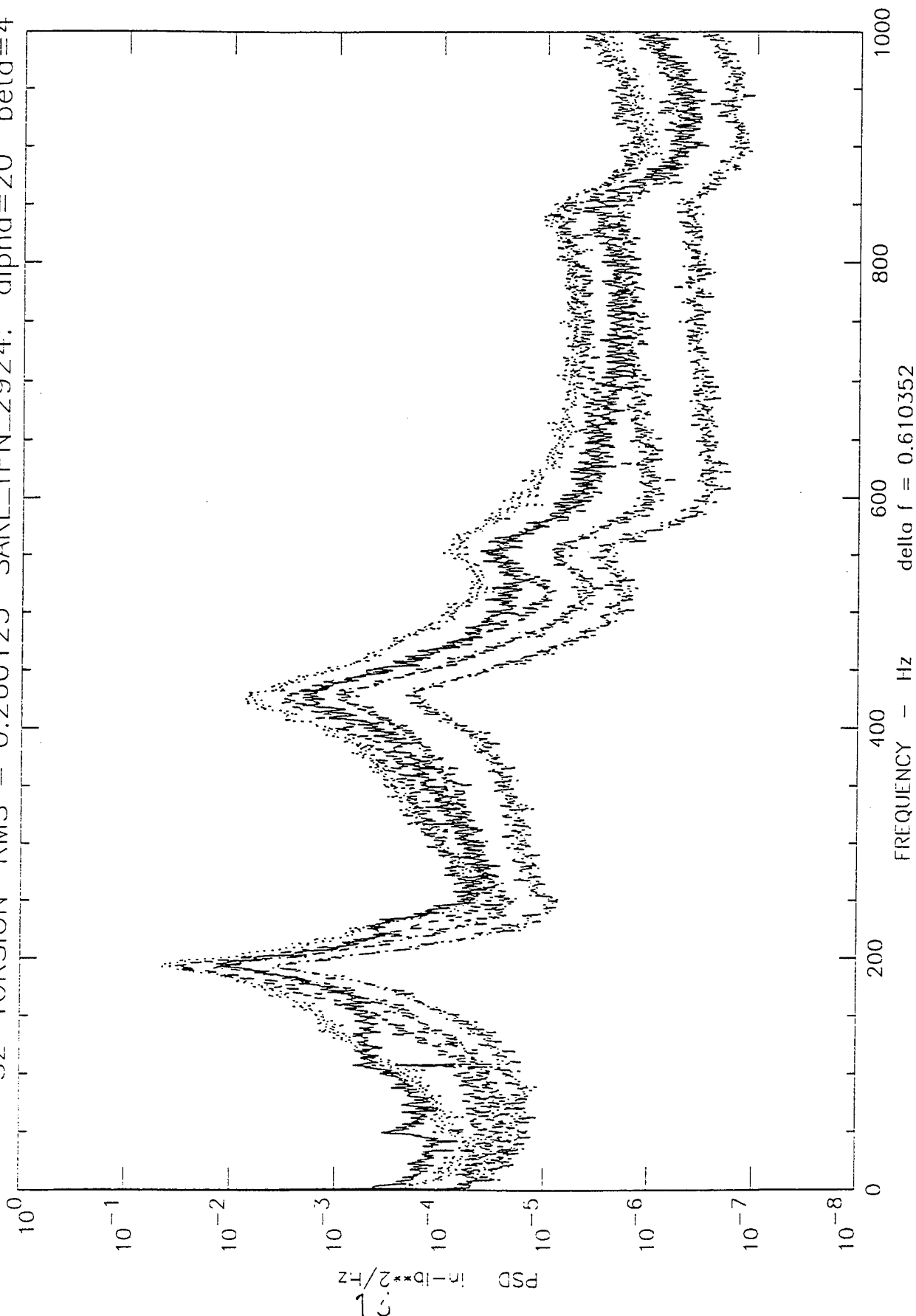
F-15 Vertical Tail Buffet Test: Q=56, Flexible, 0 Blowing

—	S1-BENDING	RMS =	4.891802e-02	SARL_TPN_2918:	alpha=8	beta=4
---	S1-BENDING	RMS =	6.095253e-02	SARL_TPN_2917:	alpha=6	beta=4
- - -	S1-BENDING	RMS =	6.545379e-02	SARL_TPN_2916:	alpha=4	beta=4
- . - .	S1-BENDING	RMS =	6.529297e-02	SARL_TPN_2915:	alpha=2	beta=4
- . - .	S1-BENDING	RMS =	5.446436e-02	SARL_TPN_2914:	alpha=0	beta=4



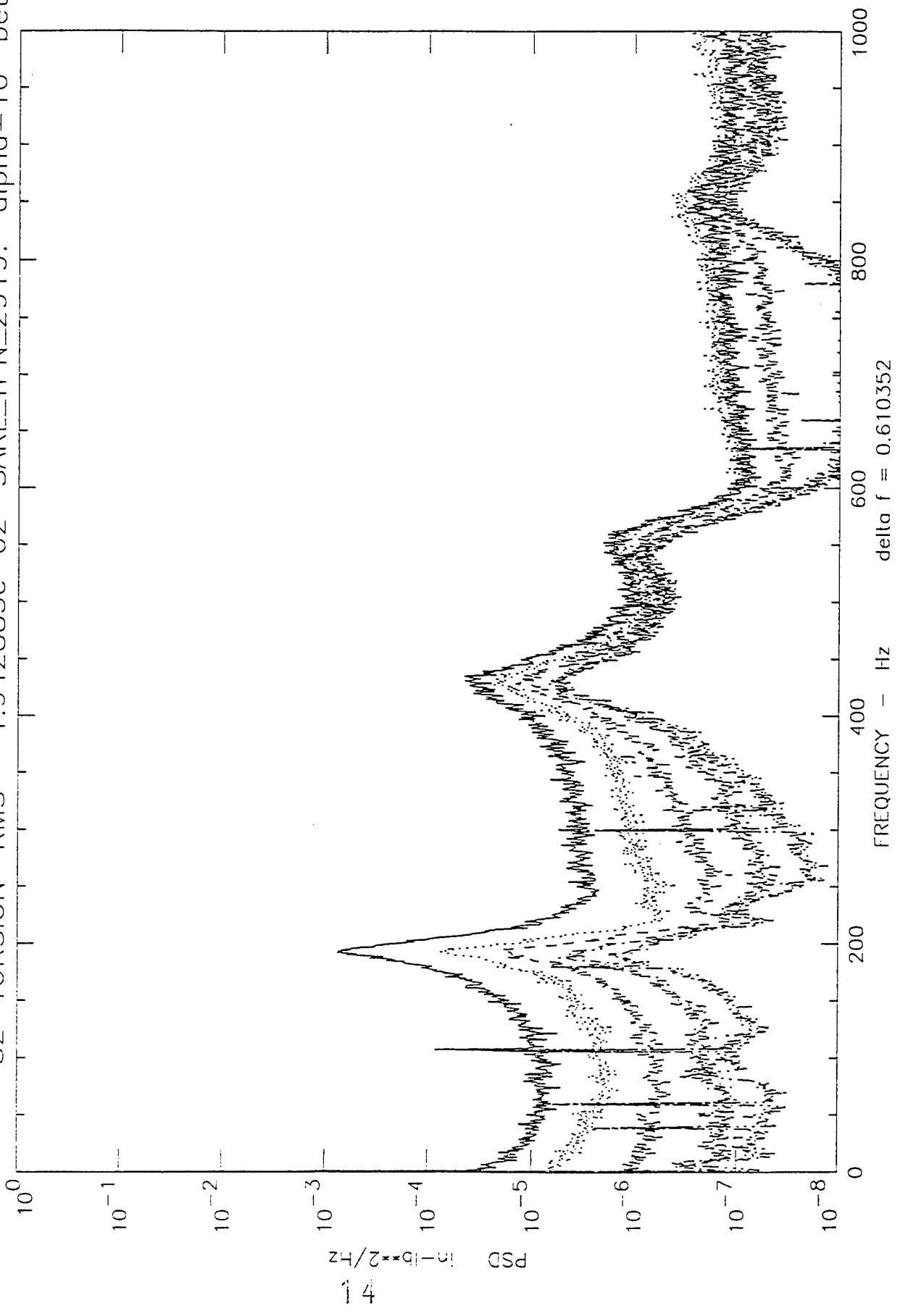
F=15 V tical Tail Buffet Test: Q=56, Flexible, o Blowing

---	S2-TORSION	RMS = 0.563100	SARL_TPN_2928:	alpha=32	beta=4
---	S2-TORSION	RMS = 0.966768	SARL_TPN_2927:	alpha=28	beta=4
---	S2-TORSION	RMS = 0.743773	SARL_TPN_2926:	alpha=24	beta=4
---	S2-TORSION	RMS = 0.469019	SARL_TPN_2925:	alpha=22	beta=4
---	S2-TORSION	RMS = 0.260123	SARL_TPN_2924:	alpha=20	beta=4



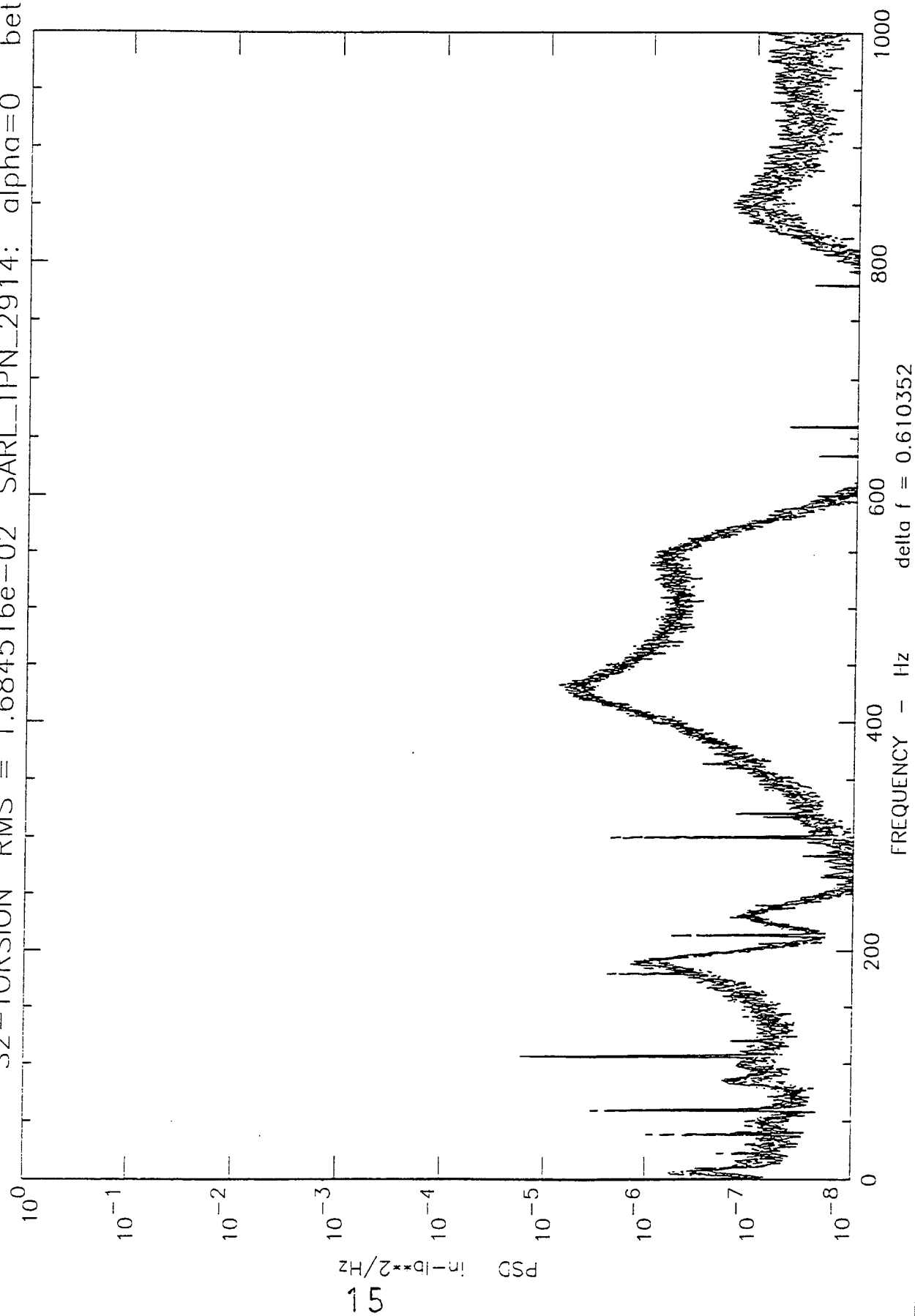
F-15 V ical Tail Buffet Test: Q=56, Flexible, o Blowing

— S2-TORSION RMS = 0.117924 SARL_IPN_2923: alpha=18 beta=4
..... S2-TORSION RMS = 5.147009e-02 SARL_IPN_2922: alpha=16 beta=4
- - - S2-TORSION RMS = 3.221441e-02 SARL_IPN_2921: alpha=14 beta=4
..... S2-TORSION RMS = 2.176169e-02 SARL_IPN_2920: alpha=12 beta=4
- - - S2-TORSION RMS = 1.942885e-02 SARL_IPN_2919: alpha=10 beta=4

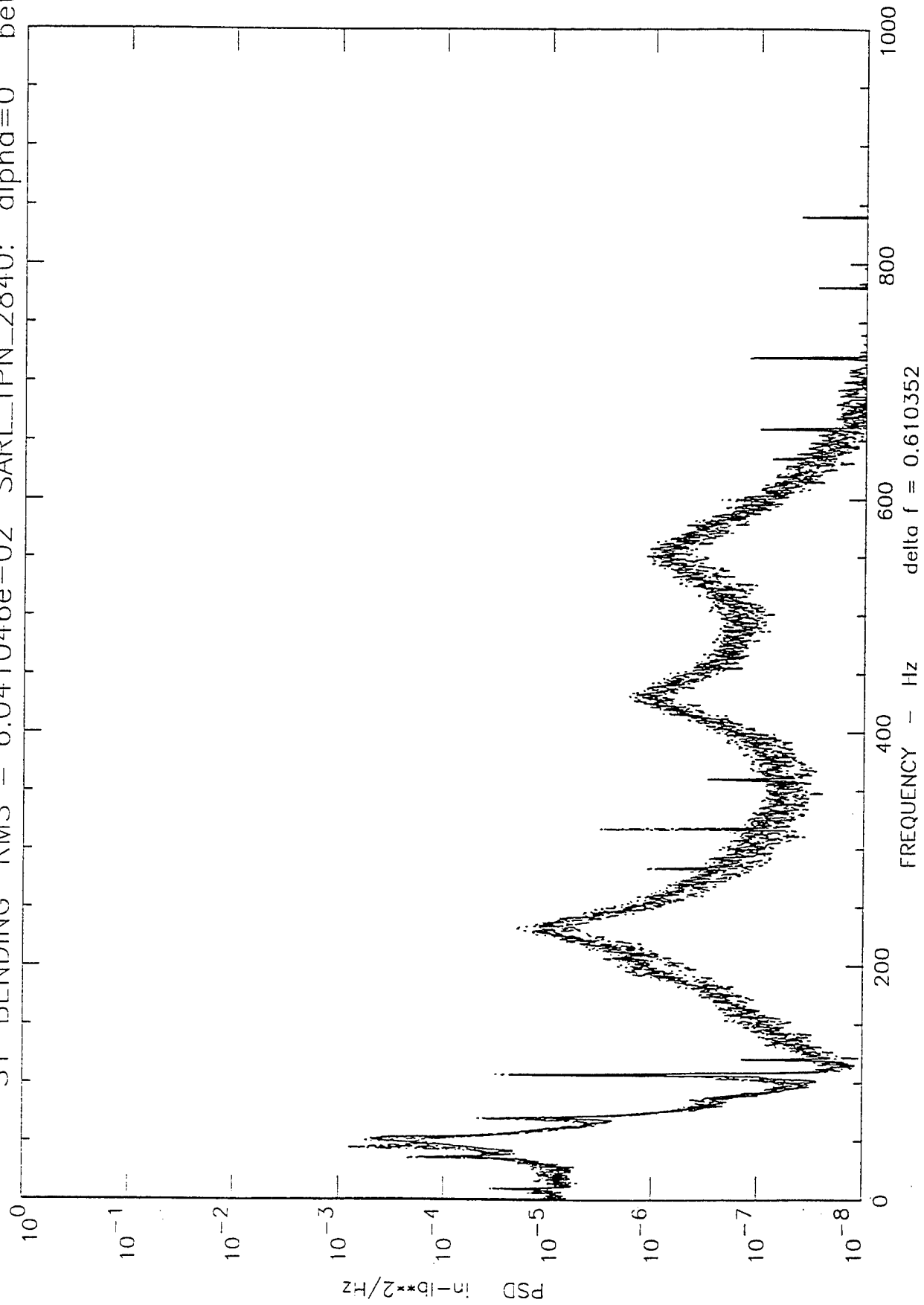


F-15 V ical Tail Buffet Test: Q=56, Flexible, o Blowing

---	S2-TORSION	RMS =	1.746896e-02	SARL_IPN_2918:	alpha=8	beta=4
---	S2-TORSION	RMS =	1.743821e-02	SARL_IPN_2917:	alpha=6	beta=4
---	S2-TORSION	RMS =	1.732974e-02	SARL_IPN_2916:	alpha=4	beta=4
---	S2-TORSION	RMS =	1.646047e-02	SARL_IPN_2915:	alpha=2	beta=4
---	S2-TORSION	RMS =	1.684516e-02	SARL_IPN_2914:	alpha=0	beta=4

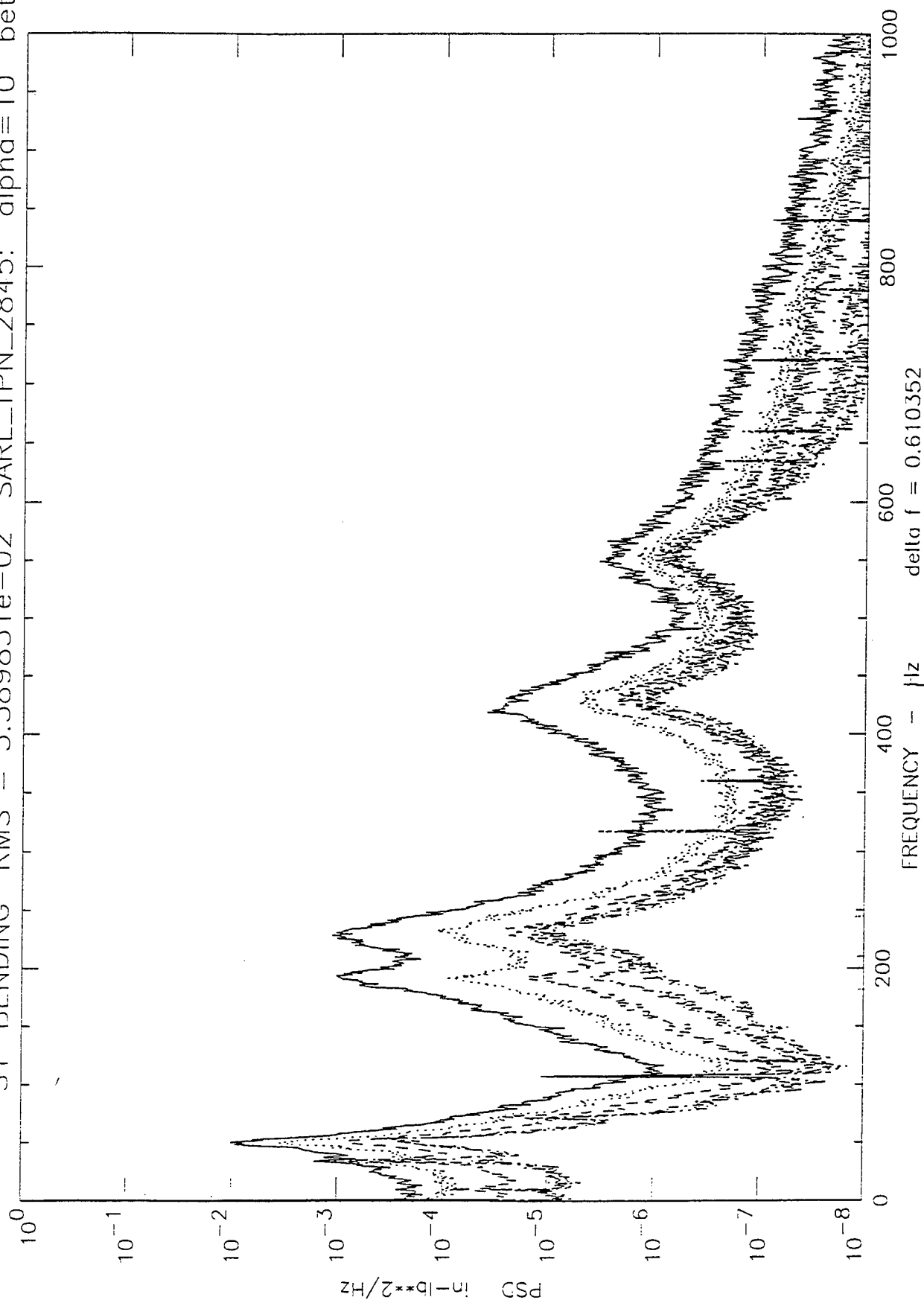


—	S1-BENDING	RMS =	6.086398e-02	SARL_TPN_2844:	alpha=8	beta=0
.....	S1-BENDING	RMS =	6.322796e-02	SARL_TPN_2843:	alpha=6	beta=0
- - - -	S1-BENDING	RMS =	6.001131e-02	SARL_TPN_2842:	alpha=4	beta=0
- - - -	S1-BENDING	RMS =	6.068240e-02	SARL_TPN_2841:	alpha=2	beta=0
.....	S1-BENDING	RMS =	6.041046e-02	SARL_TPN_2840:	alpha=0	beta=0

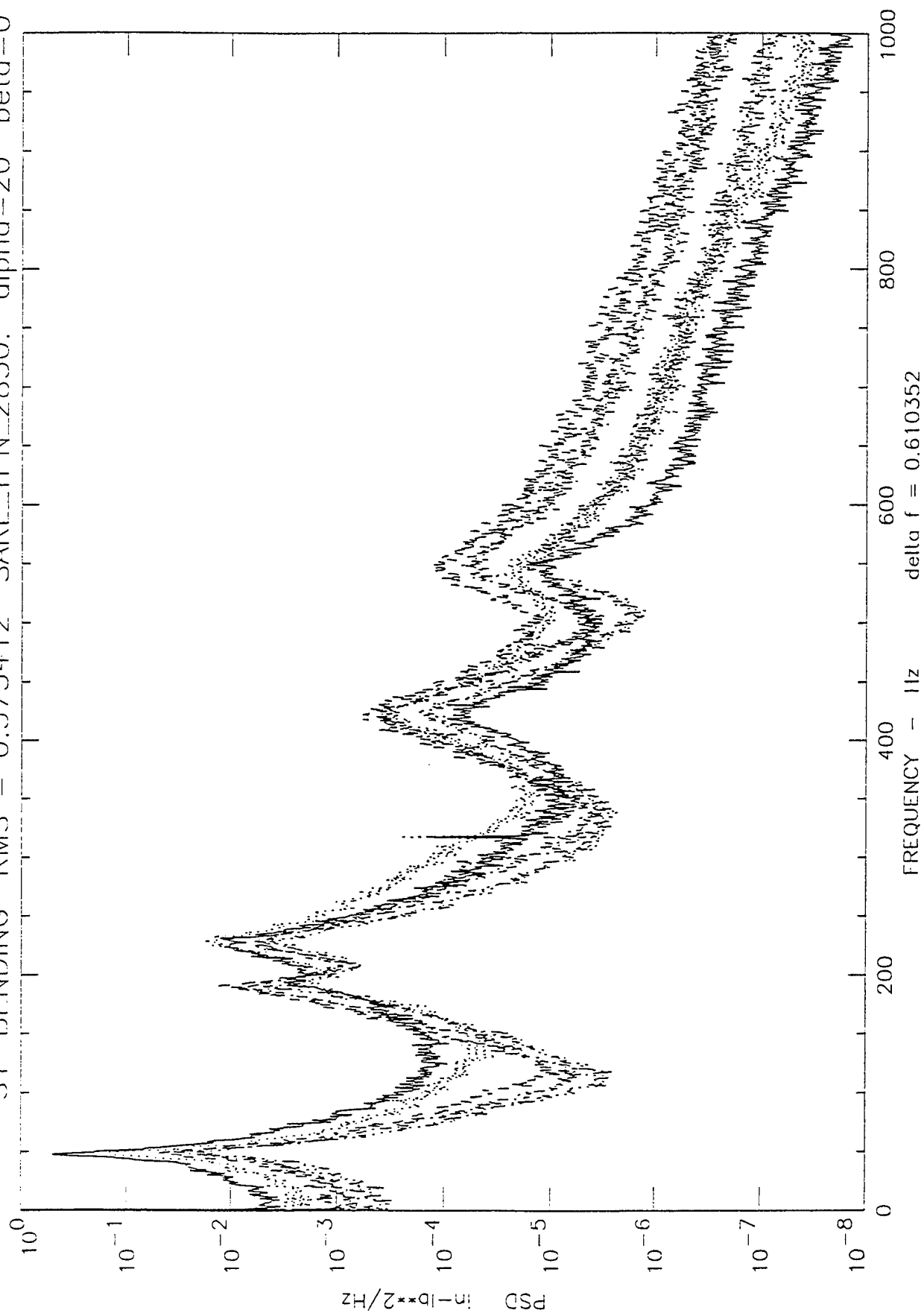


F-15 Critical Tail Buffet Test: Q=56, Flexible No Blowing

---	S1-BENDING	RMS = 0.360267	SARL_TPN_2849:	alpha=18	beta=0
---	S1-BENDING	RMS = 0.184531	SARL_TPN_2848:	alpha=16	beta=0
---	S1-BENDING	RMS = 0.102508	SARL_TPN_2847:	alpha=14	beta=0
---	S1-BENDING	RMS = 6.162486e-02	SARL_TPN_2846:	alpha=12	beta=0
---	S1-BENDING	RMS = 5.589831e-02	SARL_TPN_2845:	alpha=10	beta=0

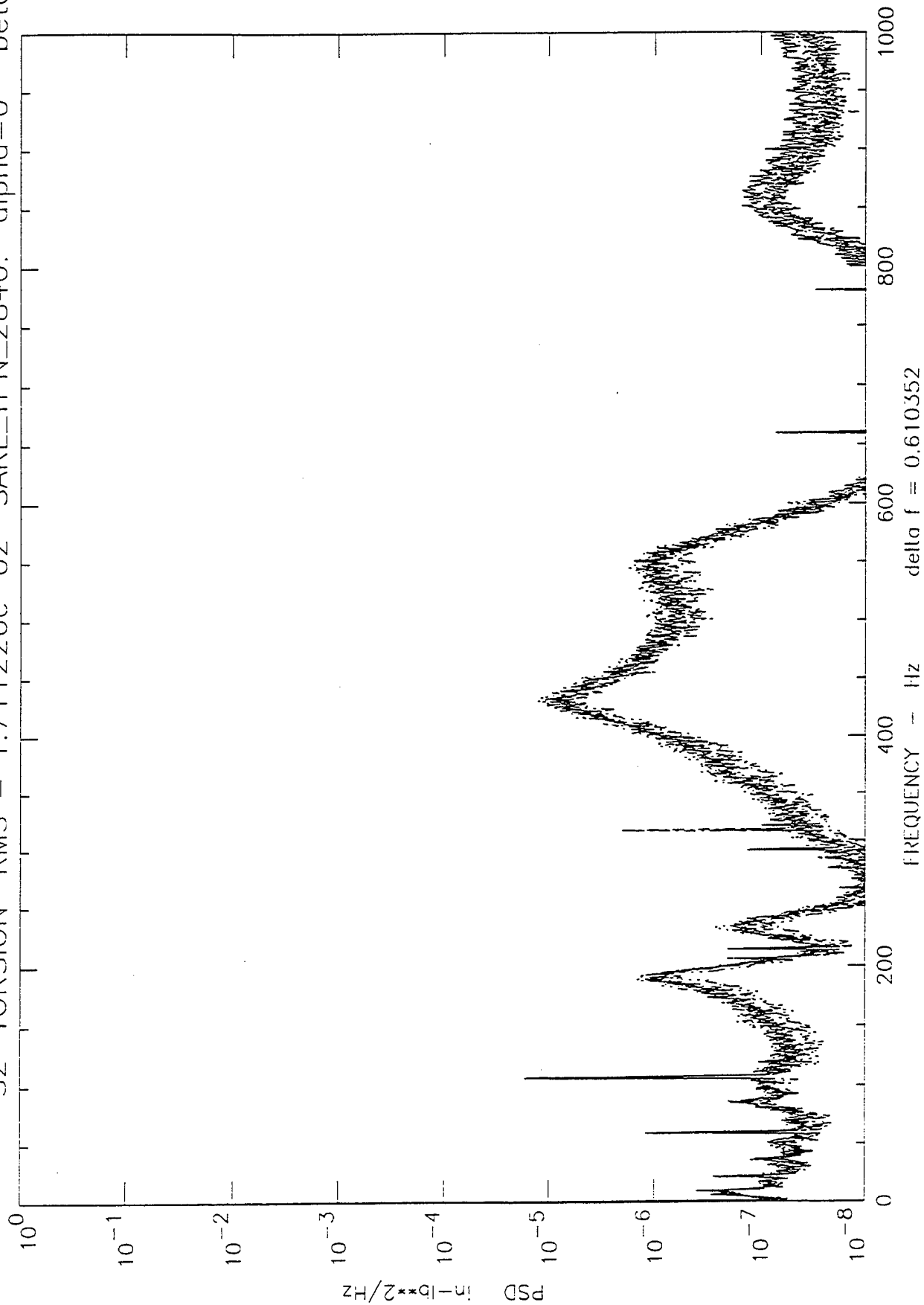


---	S1-BENDING	RMS = 1.79350	SARL_TPN_2854:	alpha=32	beta=0
---	S1-BENDING	RMS = 1.24011	SARL_TPN_2853:	alpha=28	beta=0
---	S1-BENDING	RMS = 0.863039	SARL_TPN_2852:	alpha=24	beta=0
---	S1-BENDING	RMS = 0.737765	SARL_TPN_2851:	alpha=22	beta=0
---	S1-BENDING	RMS = 0.575412	SARL_TPN_2850:	alpha=20	beta=0

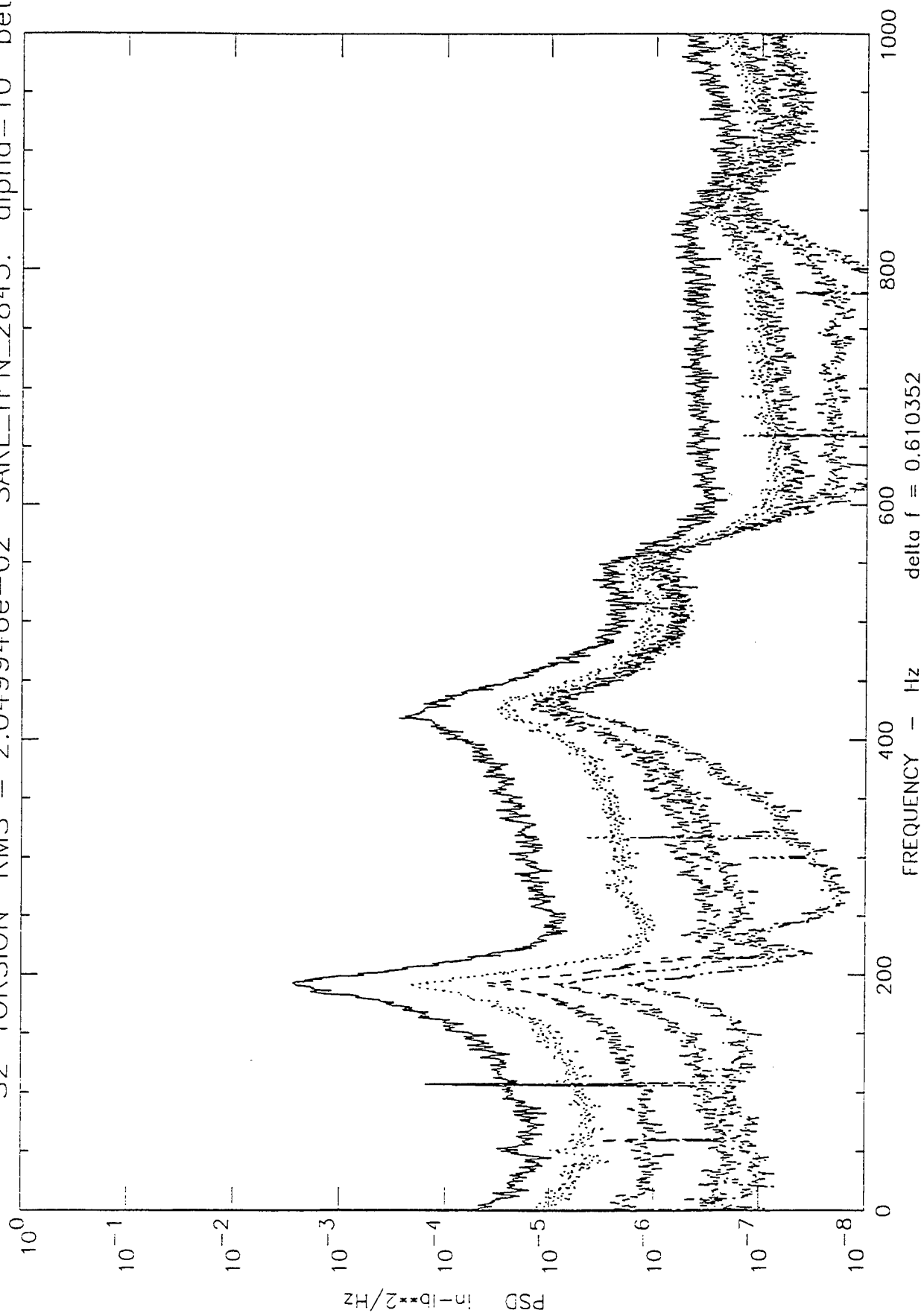


F-15 Critical Tail Buffet Test: Q=56, Flexible, No Blowing

---	S2-TORSION	RMS = 2.074381e-02	SARL_IPN_2844:	alpha=8	beta=0
.....	S2-TORSION	RMS = 2.299630e-02	SARL_IPN_2843:	alpha=6	beta=0
- - - -	S2-TORSION	RMS = 2.149061e-02	SARL_IPN_2842:	alpha=4	beta=0
.....	S2-TORSION	RMS = 1.941158e-02	SARL_IPN_2841:	alpha=2	beta=0
.....	S2-TORSION	RMS = 1.711226e-02	SARL_IPN_2840:	alpha=0	beta=0

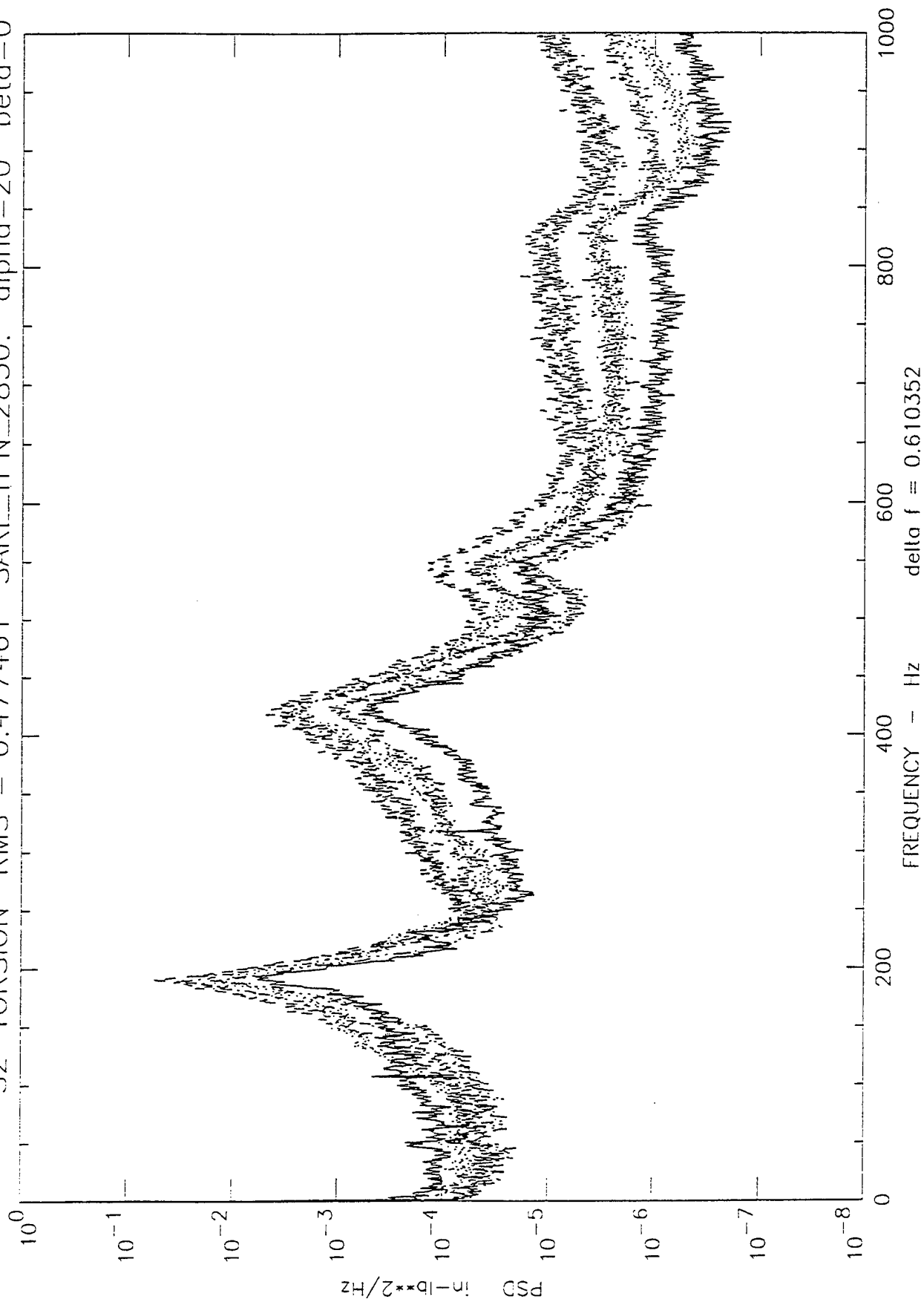


--- S2-TORSION RMS = 0.236945 S2-TORSION_2849: alpha=18 beta=0
 S2-TORSION RMS = 7.514802e-02 S2-TORSION_2848: alpha=16 beta=0
 - - - - S2-TORSION RMS = 3.916111e-02 S2-TORSION_2847: alpha=14 beta=0
 - - - - S2-TORSION RMS = 2.687191e-02 S2-TORSION_2846: alpha=12 beta=0
 - - - - S2-TORSION RMS = 2.049946e-02 S2-TORSION_2845: alpha=10 beta=0



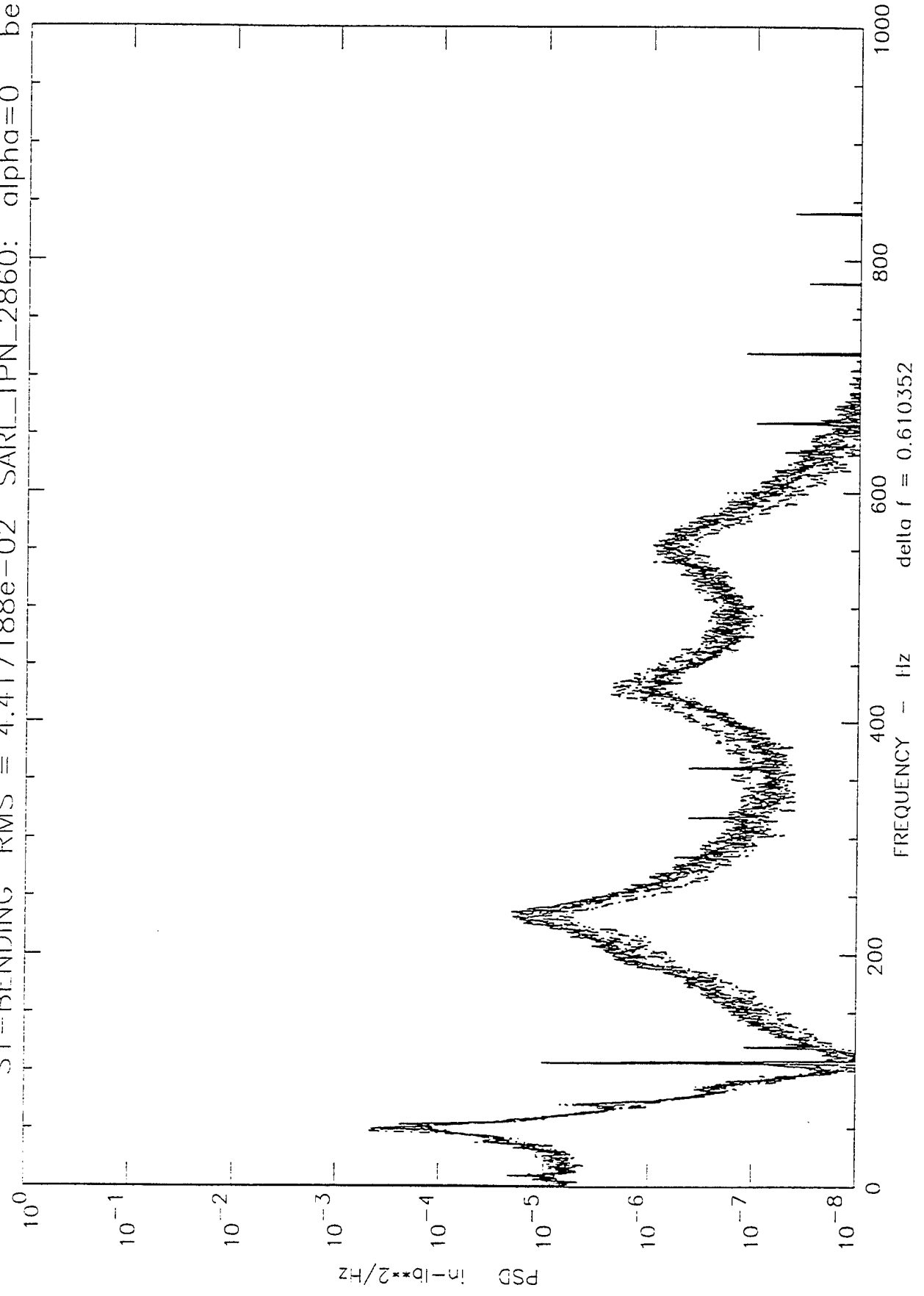
F-15 Critical Tail Buffet Test: Q=56, Flexible, Jo Blowing

---	S2-TORSION	RMS = 0.378736	SARL_TPN_2854:	alpha=32	beta=0
---	S2-TORSION	RMS = 0.597859	SARL_TPN_2853:	alpha=28	beta=0
---	S2-TORSION	RMS = 0.918385	SARL_TPN_2852:	alpha=24	beta=0
---	S2-TORSION	RMS = 0.724955	SARL_TPN_2851:	alpha=22	beta=0
---	S2-TORSION	RMS = 0.477461	SARL_TPN_2850:	alpha=20	beta=0



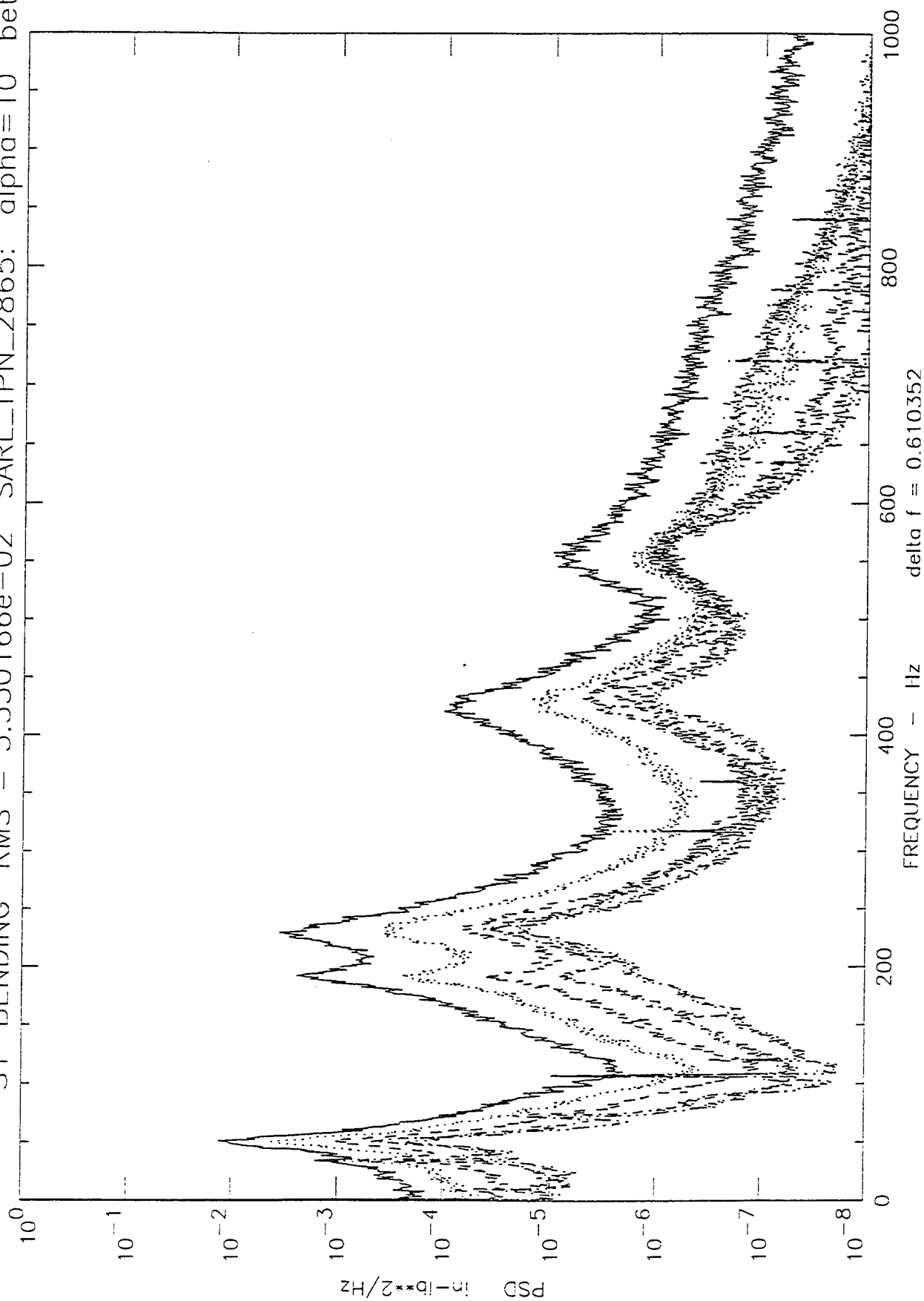
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing

—	S1-BENDING	RMS = 5.372180e-02	SARL_IPN_2864:	alpha=8	beta=-4
---	S1-BENDING	RMS = 5.200567e-02	SARL_IPN_2863:	alpha=6	beta=-4
- - -	S1-BENDING	RMS = 5.039134e-02	SARL_IPN_2862:	alpha=4	beta=-4
----	S1-BENDING	RMS = 5.461342e-02	SARL_IPN_2861:	alpha=2	beta=-4
.....	S1-BENDING	RMS = 4.417188e-02	SARL_IPN_2860:	alpha=0	beta=-4

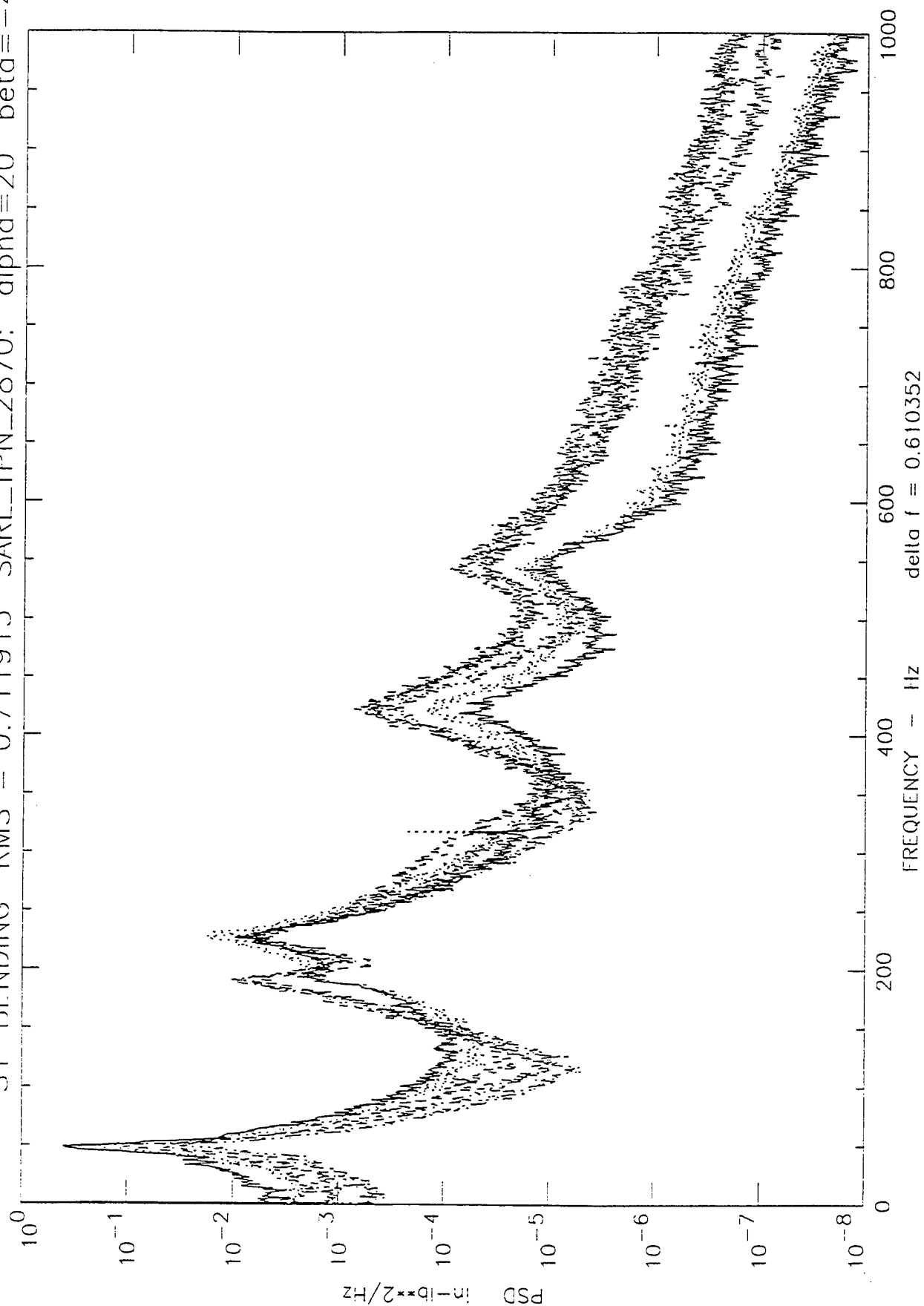


F-15 Critical Tail Buffet Test: Q=56, Flexible, do Blowing

--- S1-BENDING RMS = 0.464581 SARI_TPN_2869: alpha=18 beta=-4
 S1-BENDING RMS = 0.224000 SARI_TPN_2868: alpha=16 beta=-4
 - - - S1-BENDING RMS = 0.120740 SARI_TPN_2867: alpha=14 beta=-4
 - - - S1-BENDING RMS = 7.298265e-02 SARI_TPN_2866: alpha=12 beta=-4
 - - - S1-BENDING RMS = 5.350166e-02 SARI_TPN_2865: alpha=10 beta=-4

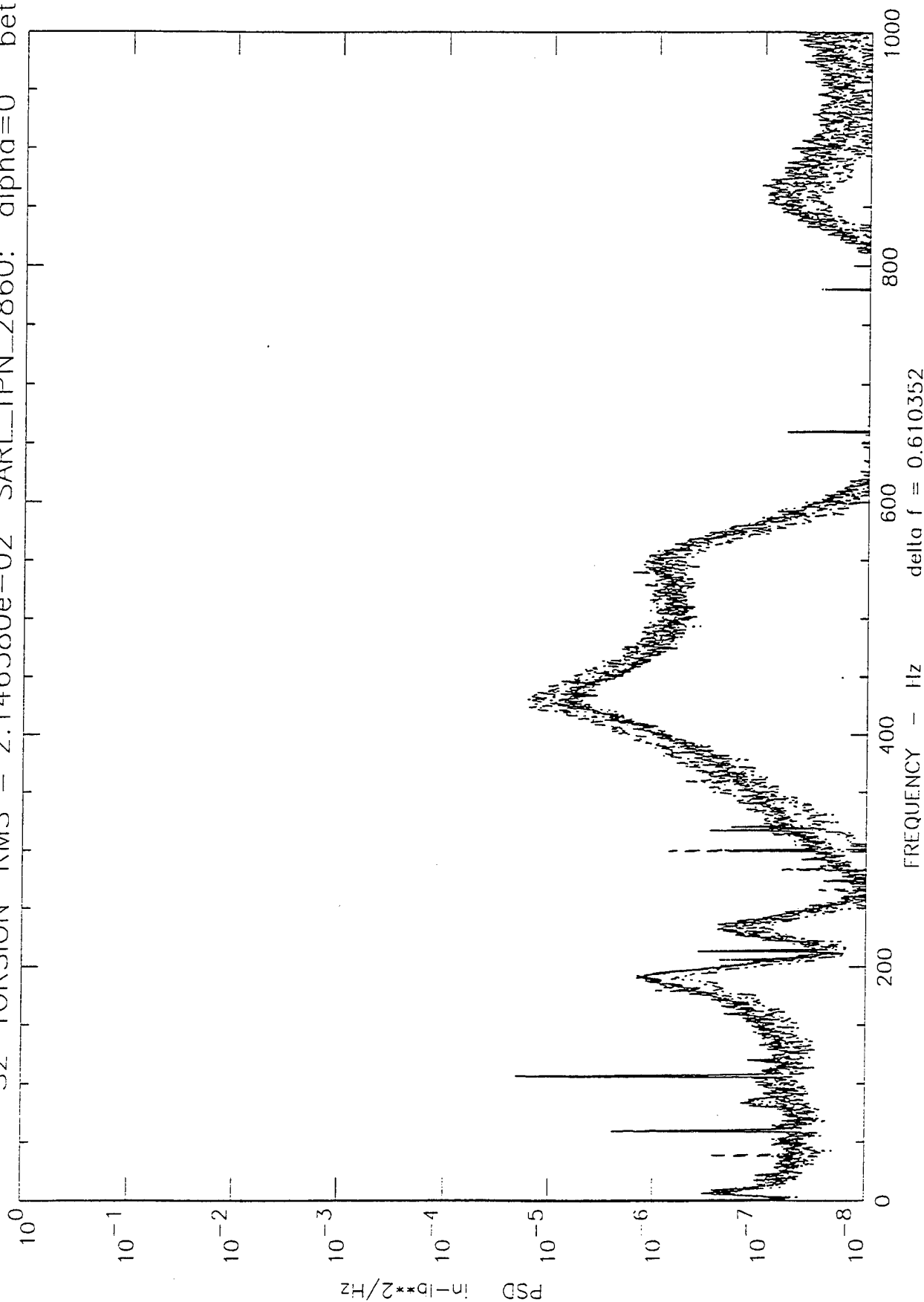


S1-BENDING RMS = 1.70698 SARL_TPN_2874: alpha=32 beta=-4
 S1-BENDING RMS = 1.32269 SARL_TPN_2873: alpha=28 beta=-4
 S1-BENDING RMS = 1.03242 SARL_TPN_2872: alpha=24 beta=-4
 S1-BENDING RMS = 0.895290 SARL_TPN_2871: alpha=22 beta=-4
 S1-BENDING RMS = 0.711915 SARL_TPN_2870: alpha=20 beta=-4



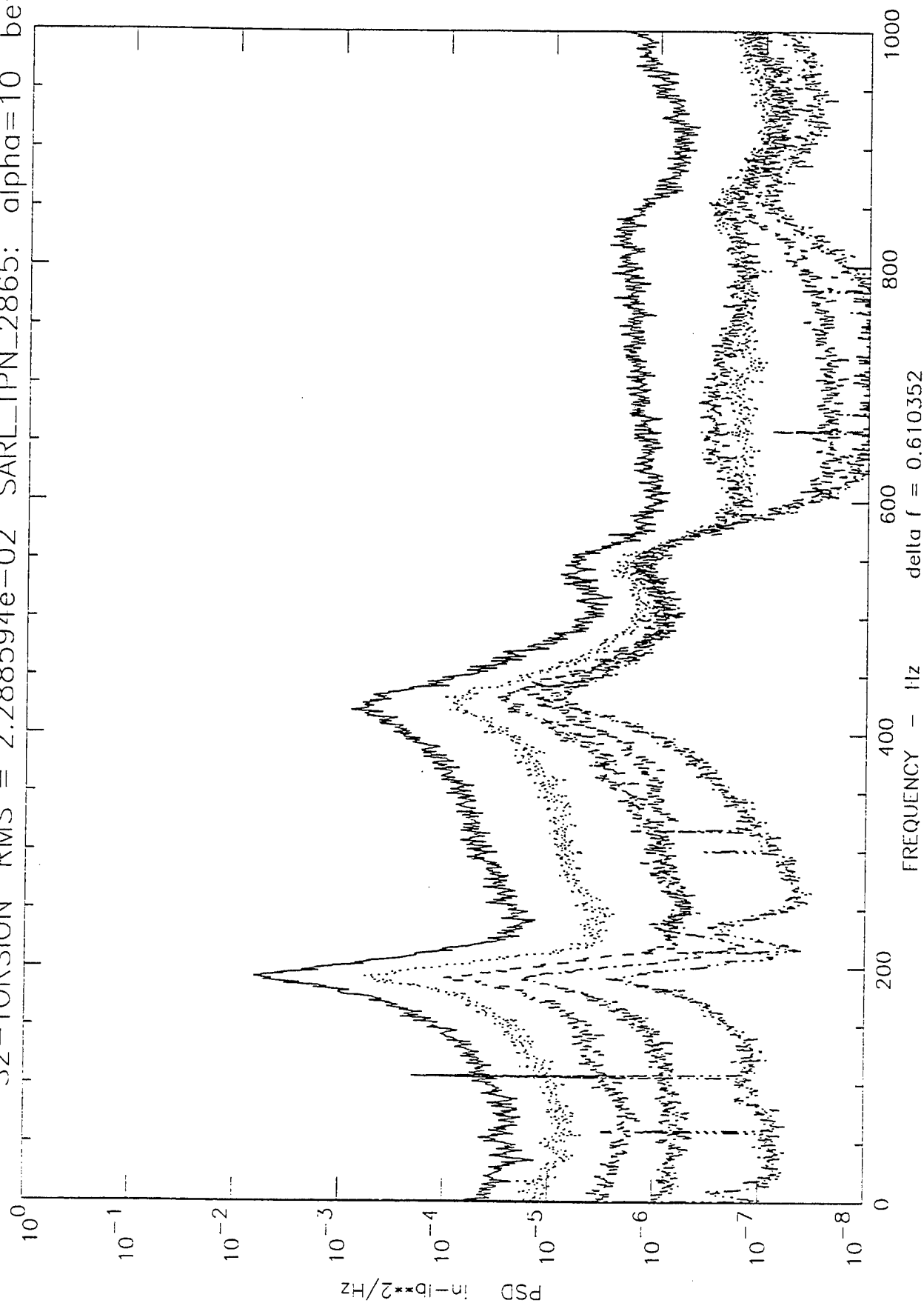
F-15 Vertical Tail Buffet Test: Q=56, Flexible, Jo Blowing

---	S2-TORSION	RMS =	2.013059e-02	SARL_TPN_2864:	alpha=8	beta=-4
----	S2-TORSION	RMS =	1.943668e-02	SARL_TPN_2863:	alpha=6	beta=-4
- - -	S2-TORSION	RMS =	1.932396e-02	SARL_TPN_2862:	alpha=4	beta=-4
----	S2-TORSION	RMS =	2.525752e-02	SARL_TPN_2861:	alpha=2	beta=-4
----	S2-TORSION	RMS =	2.146380e-02	SARL_TPN_2860:	alpha=0	beta=-4



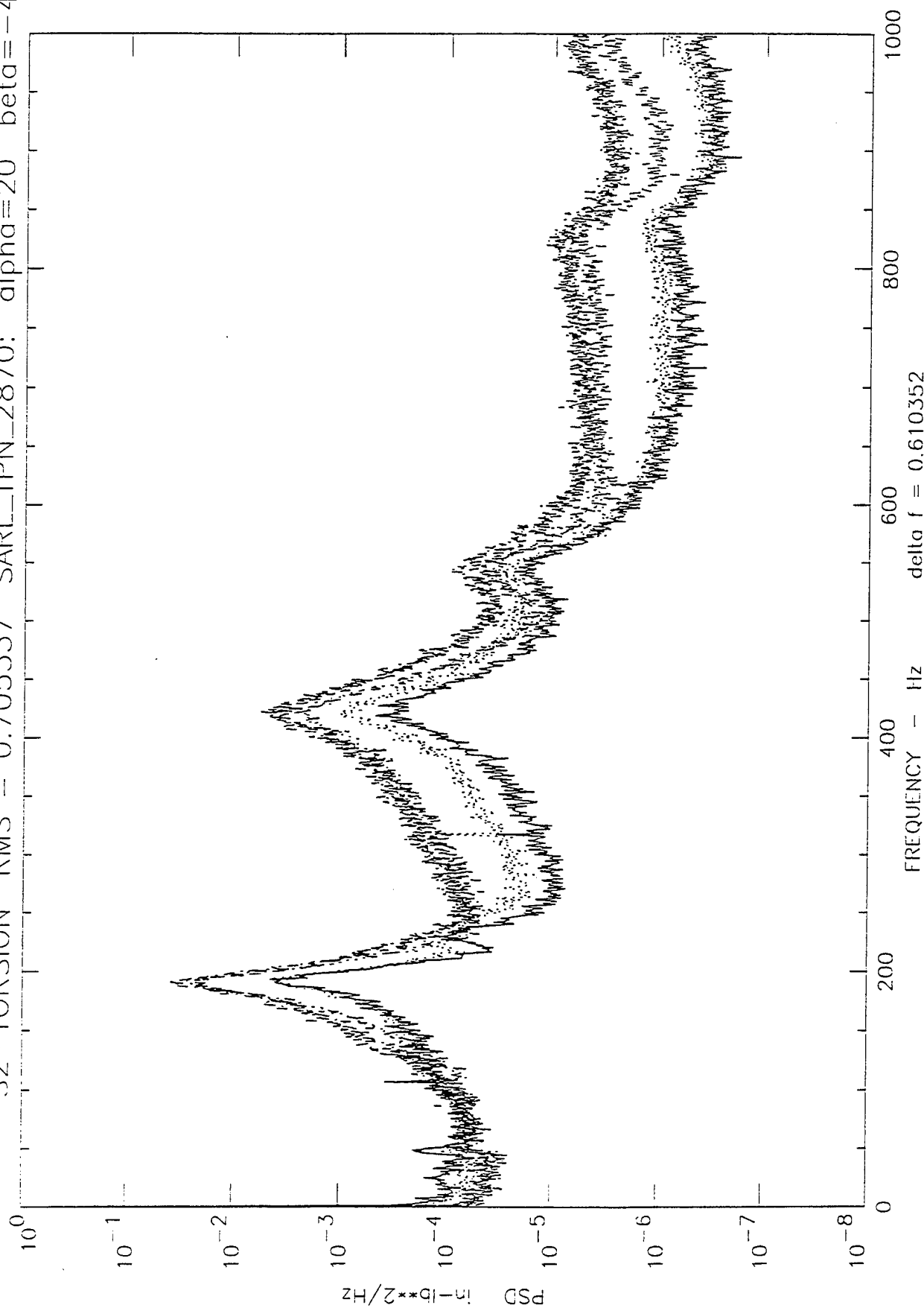
F-15 Vertical Tail Buffet Test: Q=56, Flexible, to Blowing

---	S2-TORSION	RMS = 0.341618	SARL_IPN_2869:	alpha=18	beta=-4
---	S2-TORSION	RMS = 0.119482	SARL_IPN_2868:	alpha=16	beta=-4
---	S2-TORSION	RMS = 4.994458e-02	SARL_IPN_2867:	alpha=14	beta=-4
---	S2-TORSION	RMS = 4.293735e-02	SARL_IPN_2866:	alpha=12	beta=-4
---	S2-TORSION	RMS = 2.288594e-02	SARL_IPN_2865:	alpha=10	beta=-4

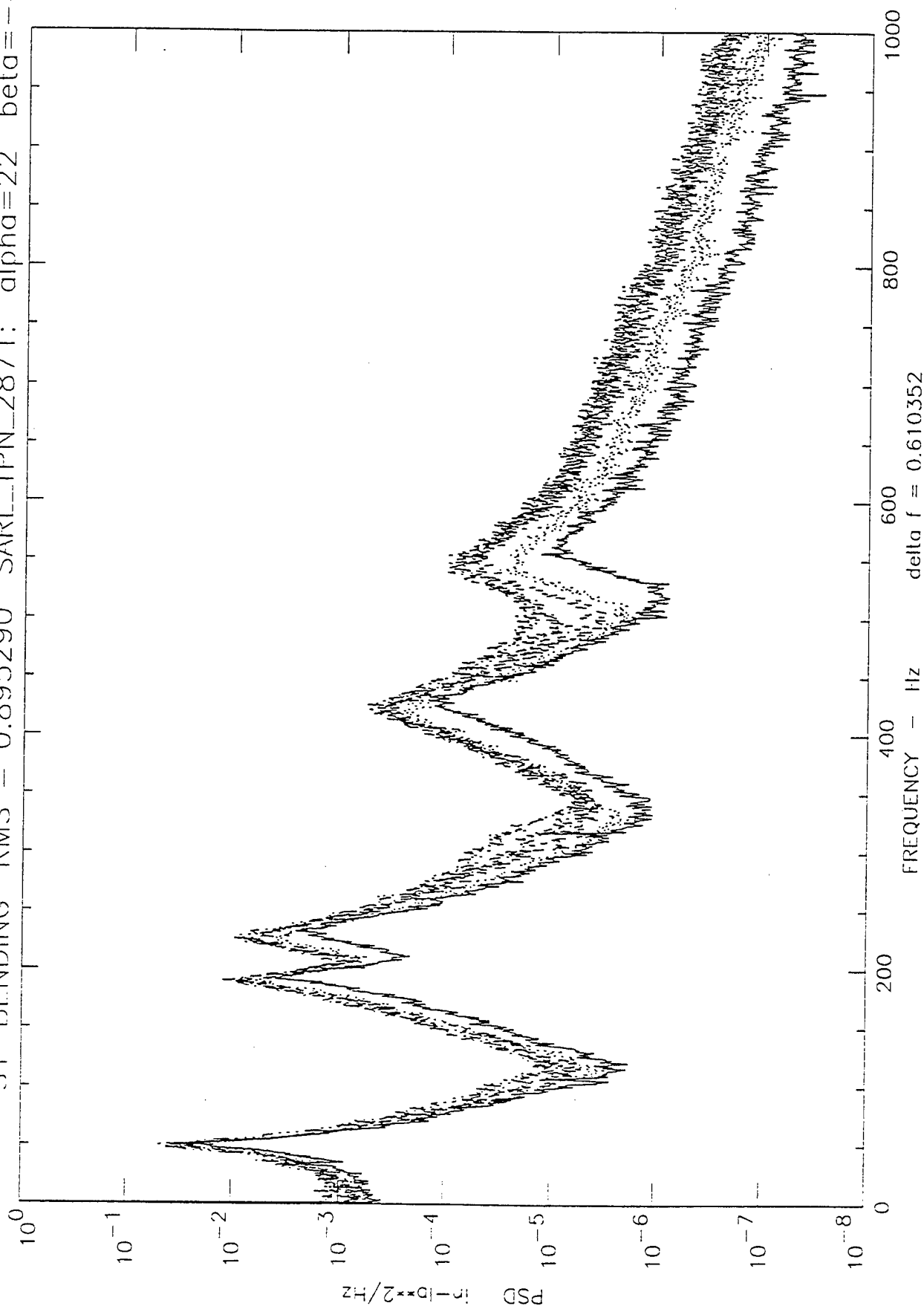


F-15 Vertical Tail Buffet Test: Q=56, Flexible, to Blowing

---	S2-TORSION	RMS = 0.314384	SARL_TPN_2874:	alpha=32	beta=-4
---	S2-TORSION	RMS = 0.355982	SARL_TPN_2873:	alpha=28	beta=-4
---	S2-TORSION	RMS = 0.771799	SARL_TPN_2872:	alpha=24	beta=-4
---	S2-TORSION	RMS = 0.853800	SARL_TPN_2871:	alpha=22	beta=-4
---	S2-TORSION	RMS = 0.705337	SARL_TPN_2870:	alpha=20	beta=-4

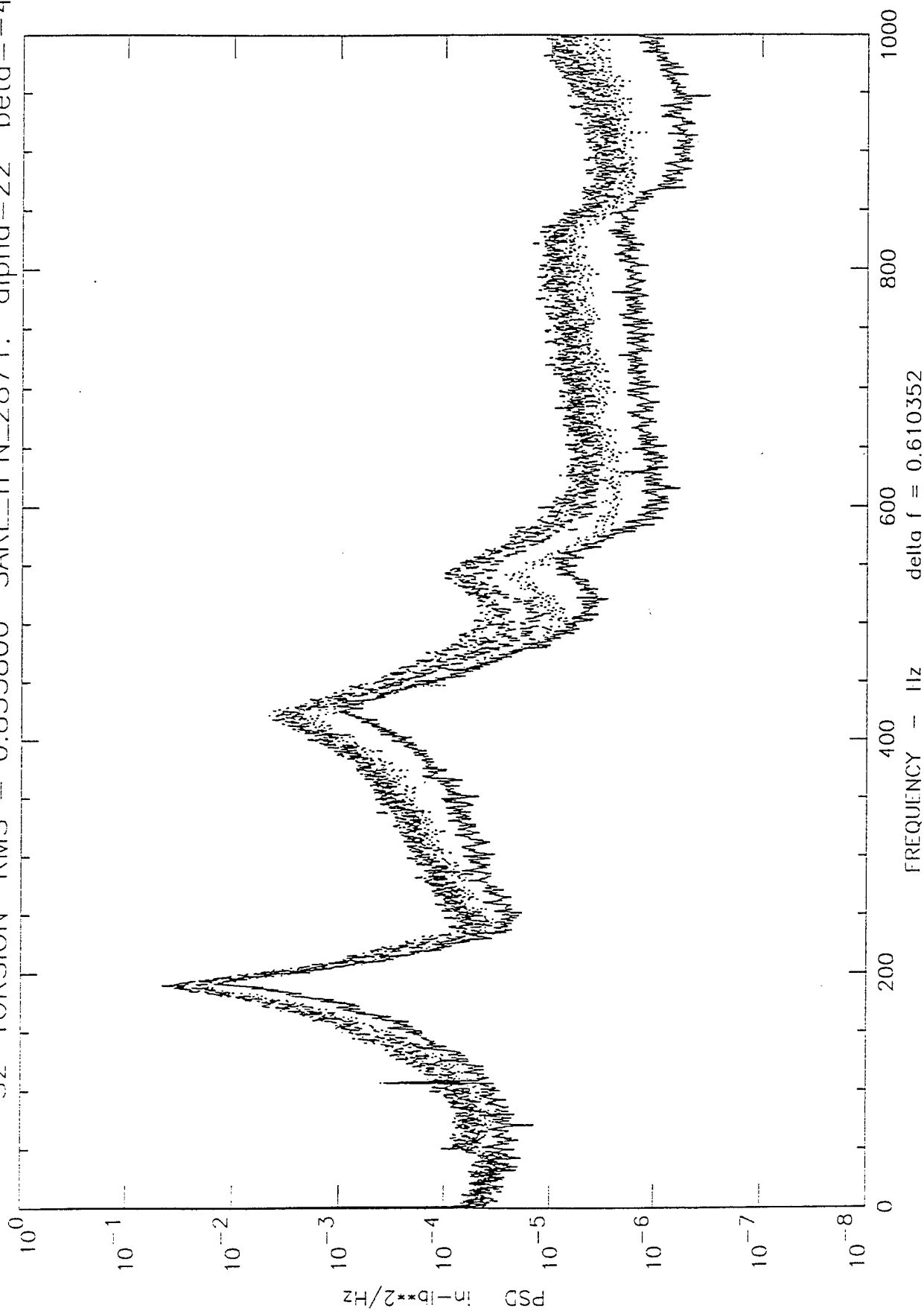


—	S1--BENDING	RMS = 0.547720	SARL_TPN_2925:	alpha=22	beta=4
...	S1--BENDING	RMS = 0.667947	SARL_TPN_2907:	alpha=22	beta=2
- - -	S1--BENDING	RMS = 0.737765	SARL_TPN_2851:	alpha=22	beta=0
- . - .	S1--BENDING	RMS = 0.794578	SARL_TPN_2889:	alpha=22	beta=-2
- . . .	S1--BENDING	RMS = 0.895290	SARL_TPN_2871:	alpha=22	beta=-4



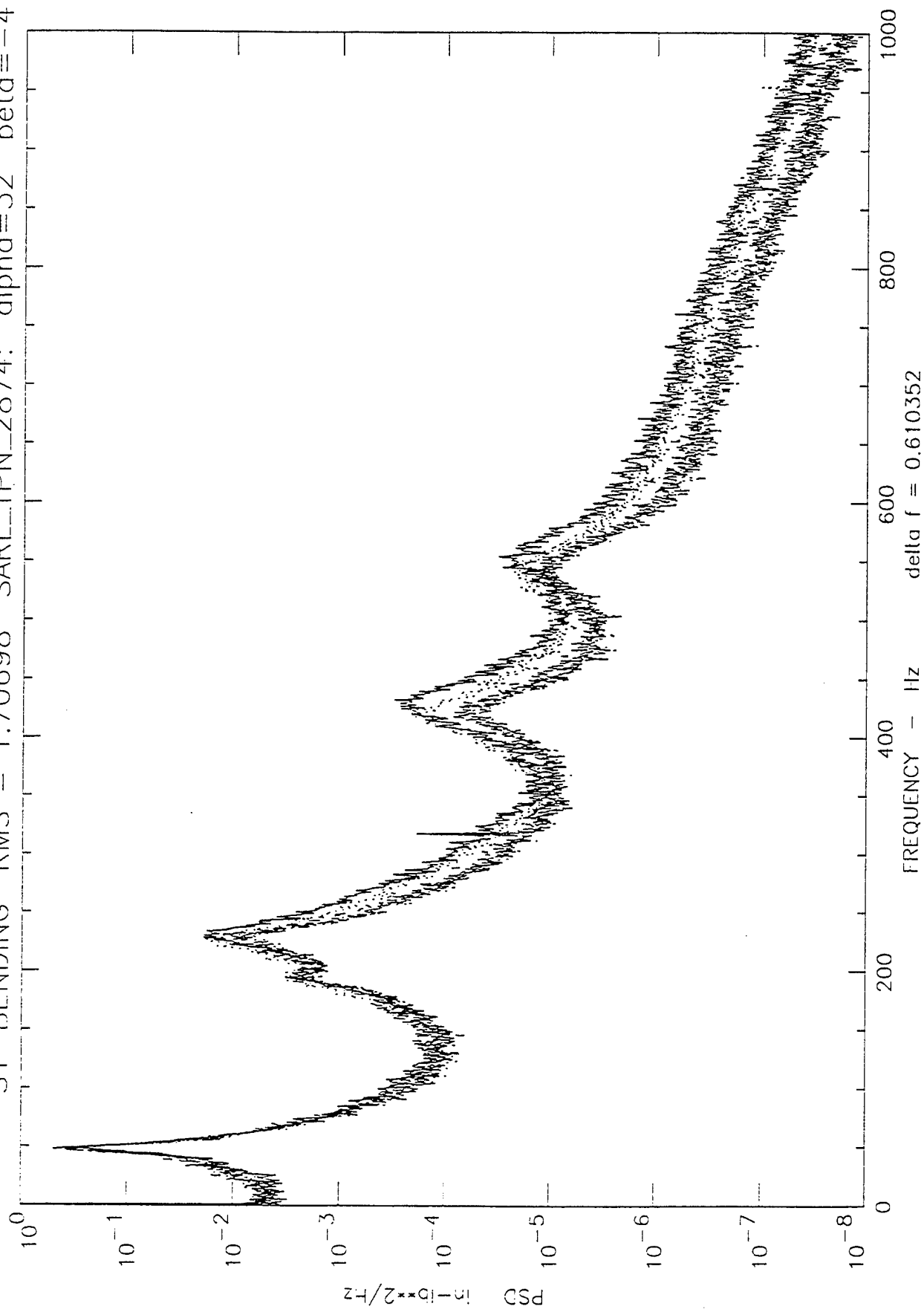
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing

.....	S2-TORSION	RMS = 0.469019	SARL_TPN_2925:	alpha=22	beta=4
.....	S2-TORSION	RMS = 0.615949	SARL_TPN_2907:	alpha=22	beta=2
-----	S2-TORSION	RMS = 0.724955	SARL_TPN_2851:	alpha=22	beta=0
.....	S2-TORSION	RMS = 0.824149	SARL_TPN_2889:	alpha=22	beta=-2
-----	S2-TORSION	RMS = 0.853800	SARL_TPN_2871:	alpha=22	beta=-4



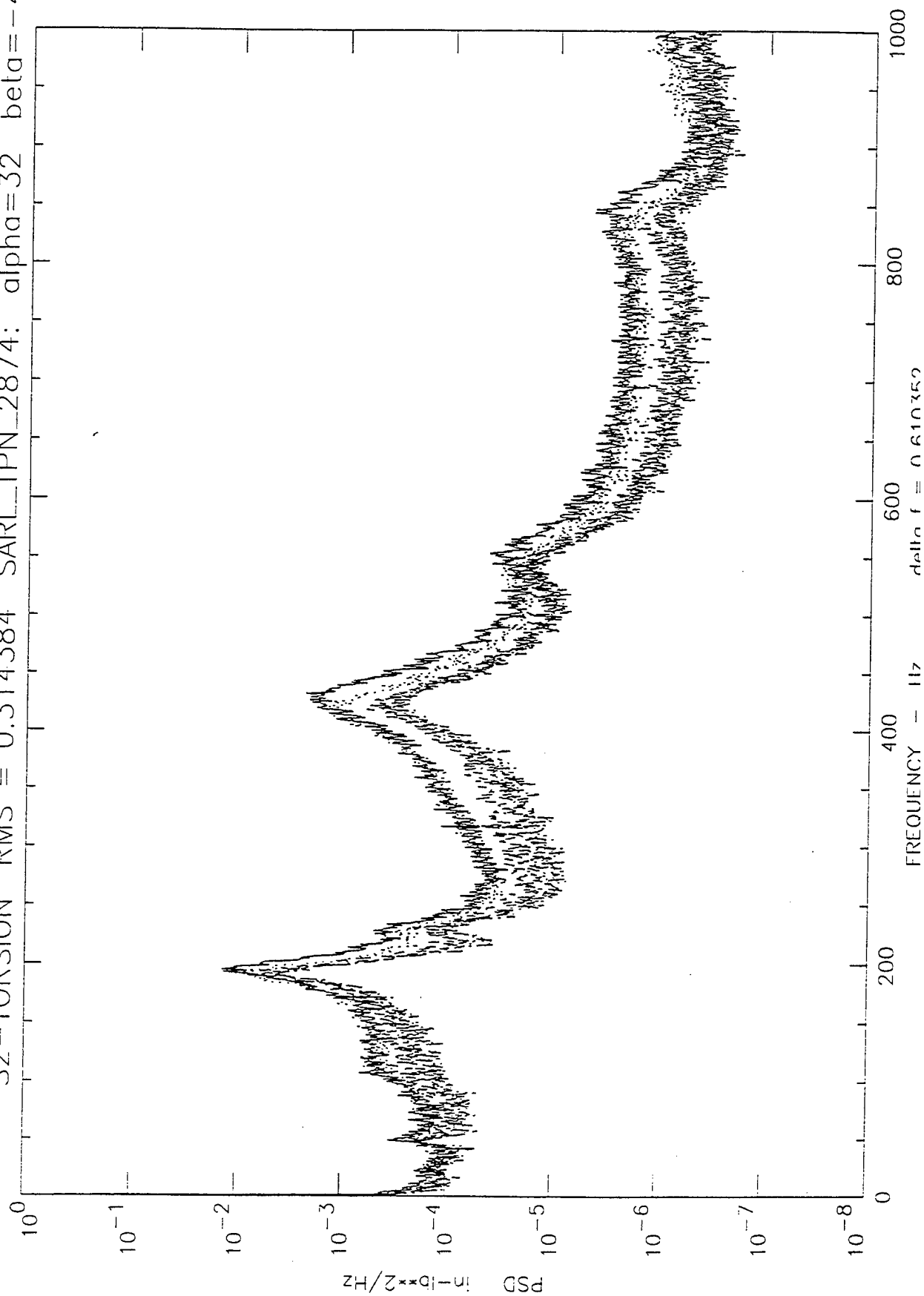
F-15 Critical Tail Buffet Test: Q=56, Flexible, to Blowing

---	S1-BENDING	RMS = 1.62116	SARL_TPN_2928:	alpha=32	beta=4
---	S1-BENDING	RMS = 1.65275	SARL_TPN_2910:	alpha=32	beta=2
---	S1-BENDING	RMS = 1.79350	SARL_TPN_2854:	alpha=32	beta=0
---	S1-BENDING	RMS = 1.74785	SARL_TPN_2892:	alpha=32	beta=-2
---	S1-BENDING	RMS = 1.70698	SARL_TPN_2874:	alpha=32	beta=-4



F-15 Vertical Tail Buffet Test: Q=56, Flexible, to Blowing

---	S2-TORSION	RMS = 0.563100	SARL_TPN_2928:	alpha=32	beta=4
---	S2-TORSION	RMS = 0.499794	SARL_TPN_2910:	alpha=32	beta=2
---	S2-TORSION	RMS = 0.378736	SARL_TPN_2854:	alpha=32	beta=0
---	S2-TORSION	RMS = 0.332417	SARL_TPN_2892:	alpha=32	beta=-2
---	S2-TORSION	RMS = 0.314384	SARL_TPN_2874:	alpha=32	beta=-4

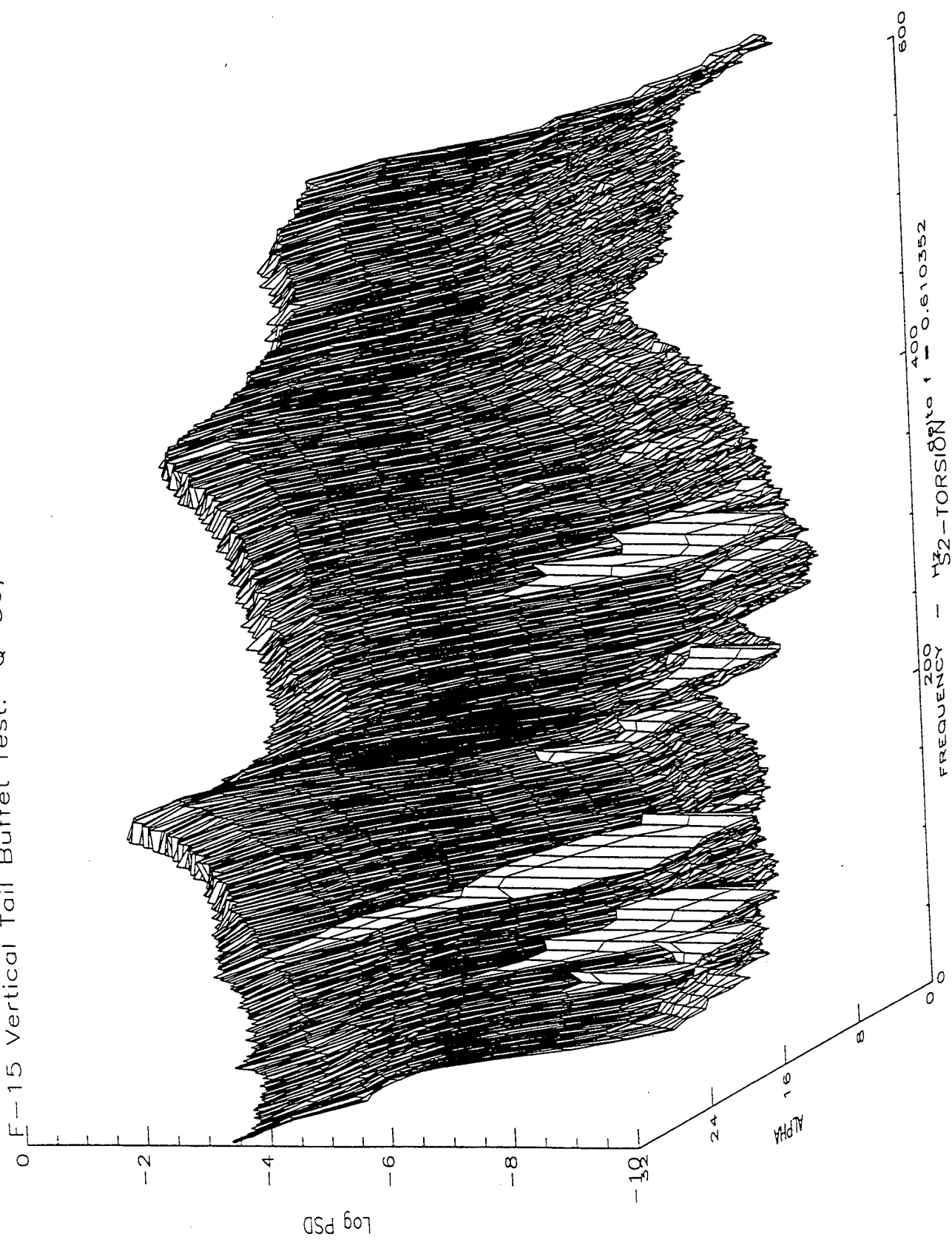


FLEXIBLE TAIL RESPONSE
DIMENSIONAL BENDING AND TORSION
PSD's in 3D*

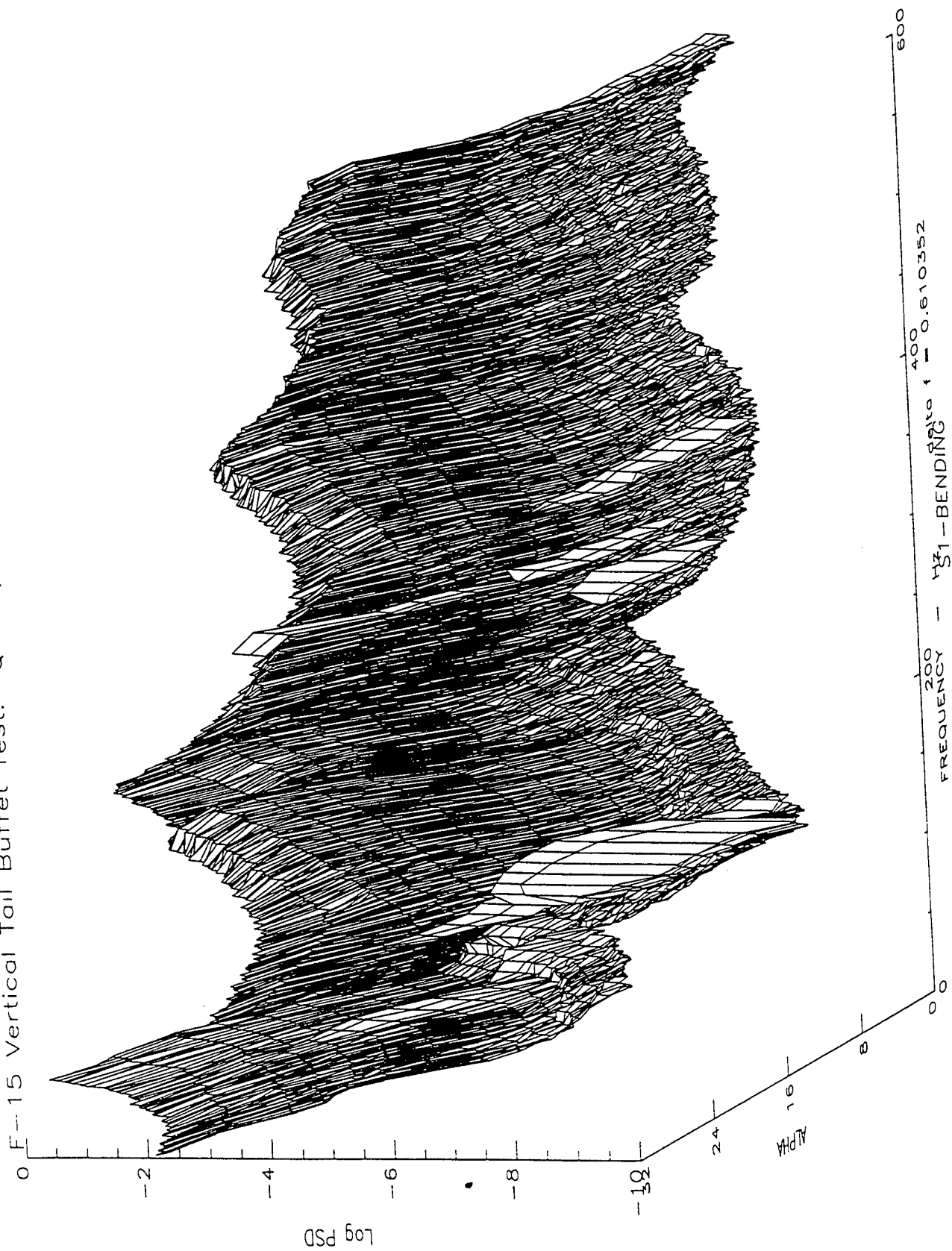
Q = 56 PSF
WBP = 0, 45, 65 PSI
BETA = 0, +4, -4 Deg
ALPHA = 0.....32 Deg

* PSD vs. freq vs ALPHA

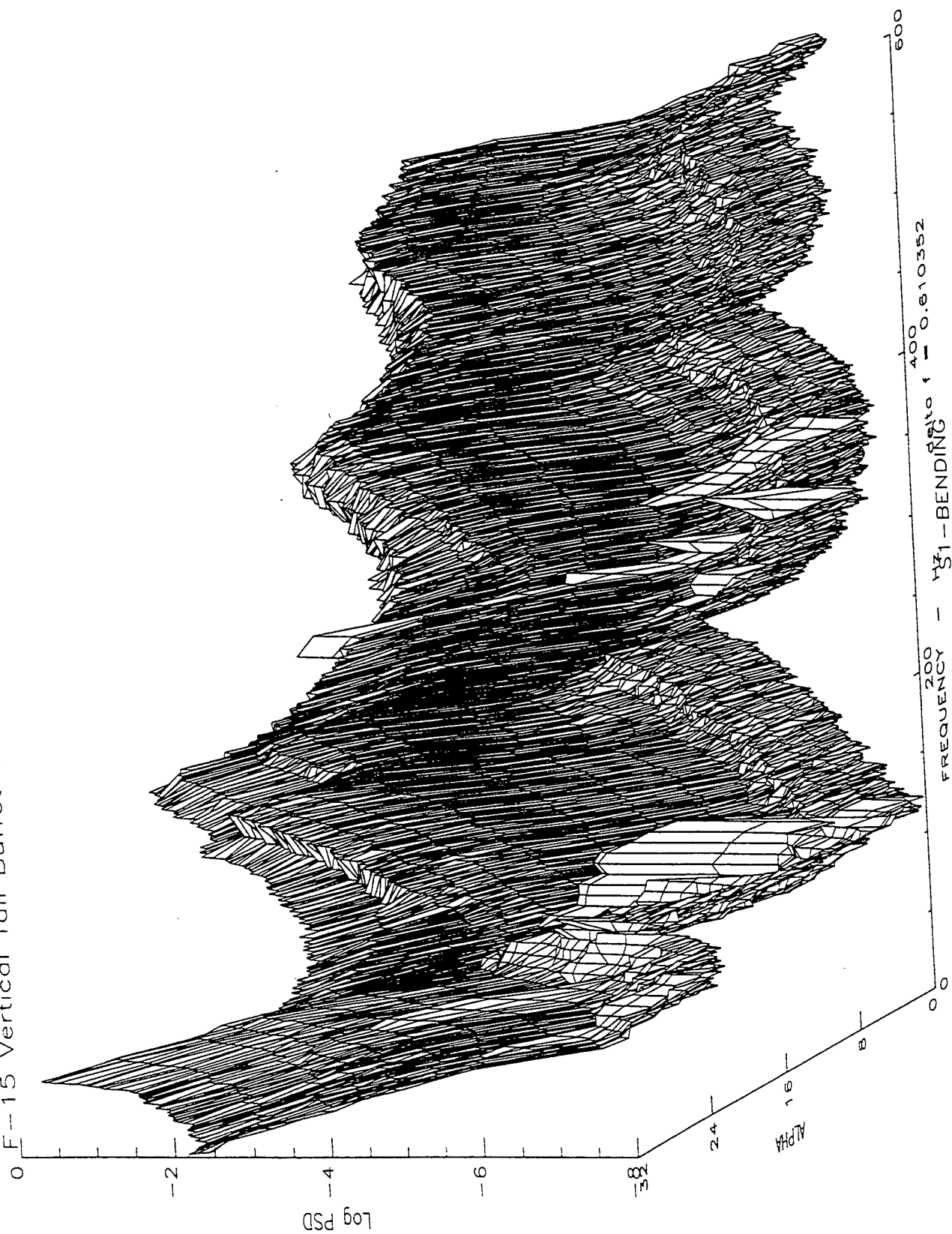
F-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $Beta=4$



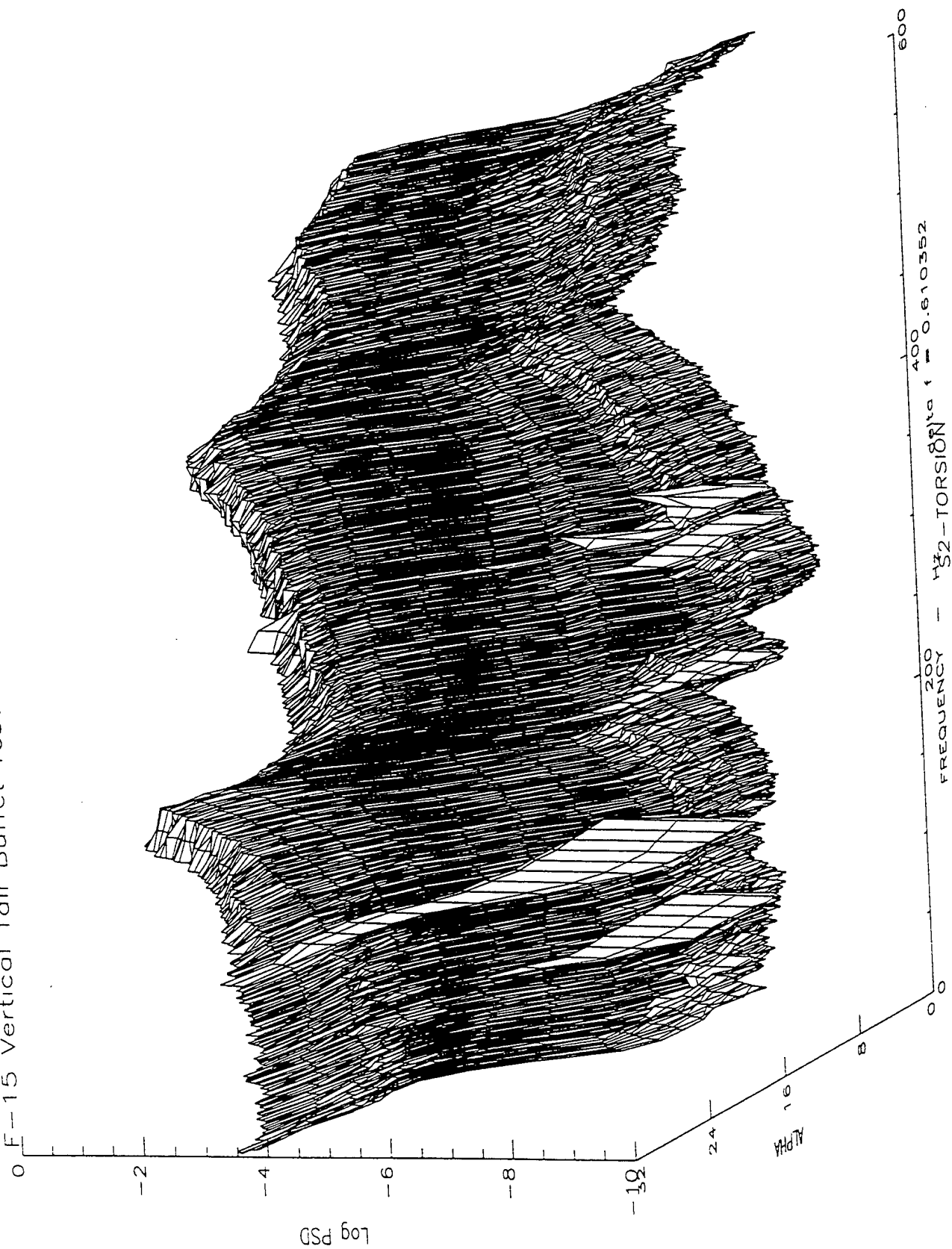
F-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $Beta=4$



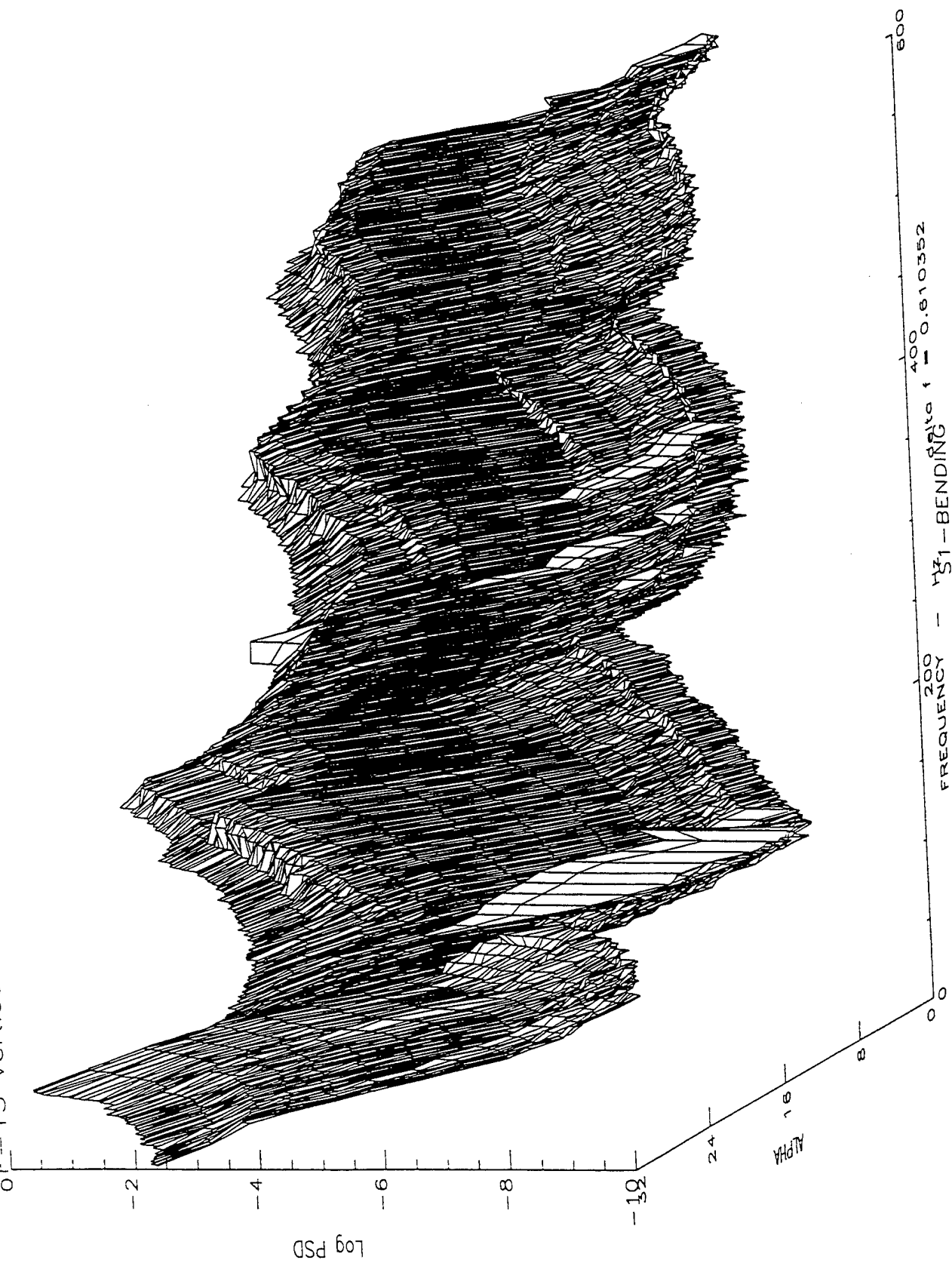
0 F-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $\text{Beta}=0$



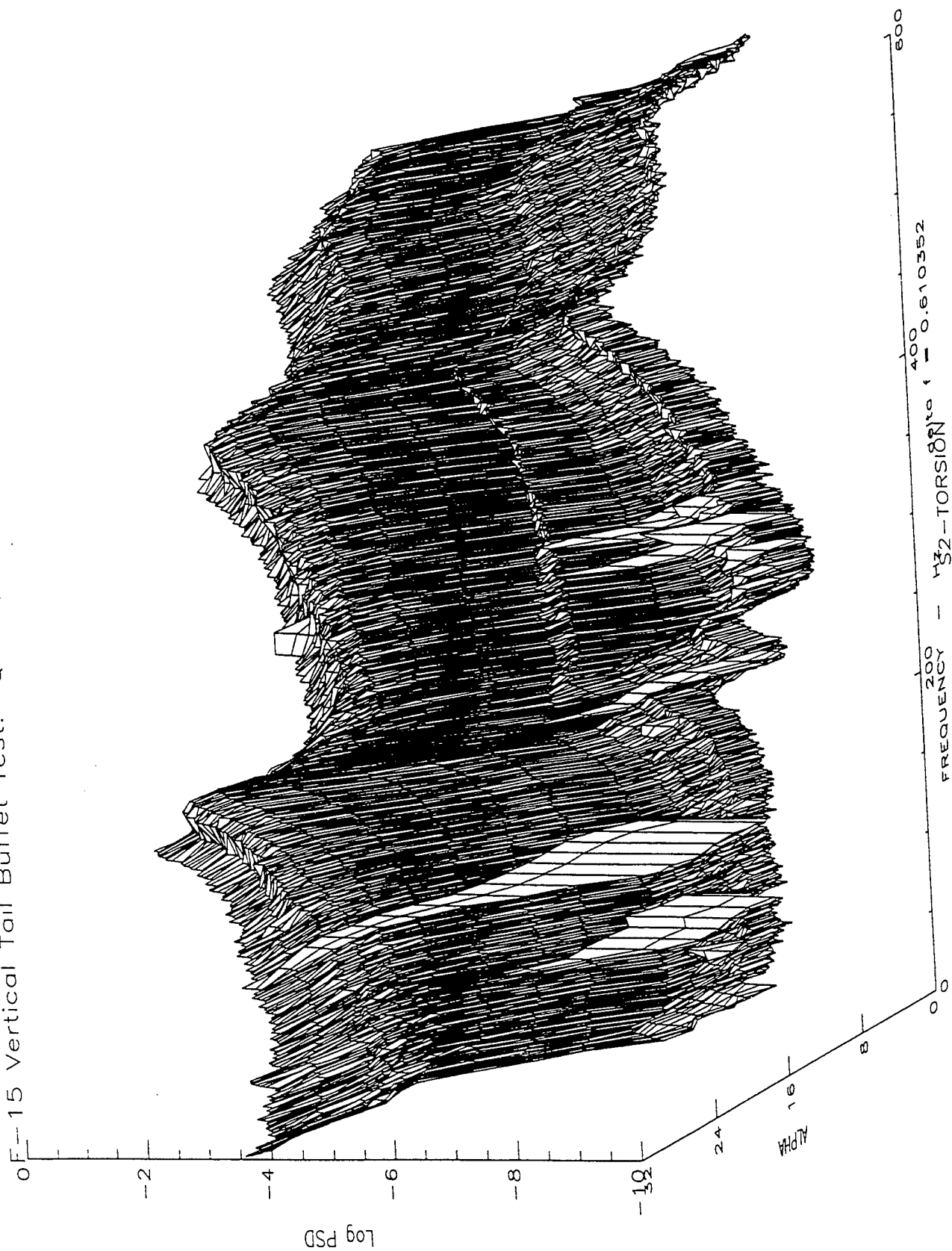
0 F-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $\text{Beta}=0$



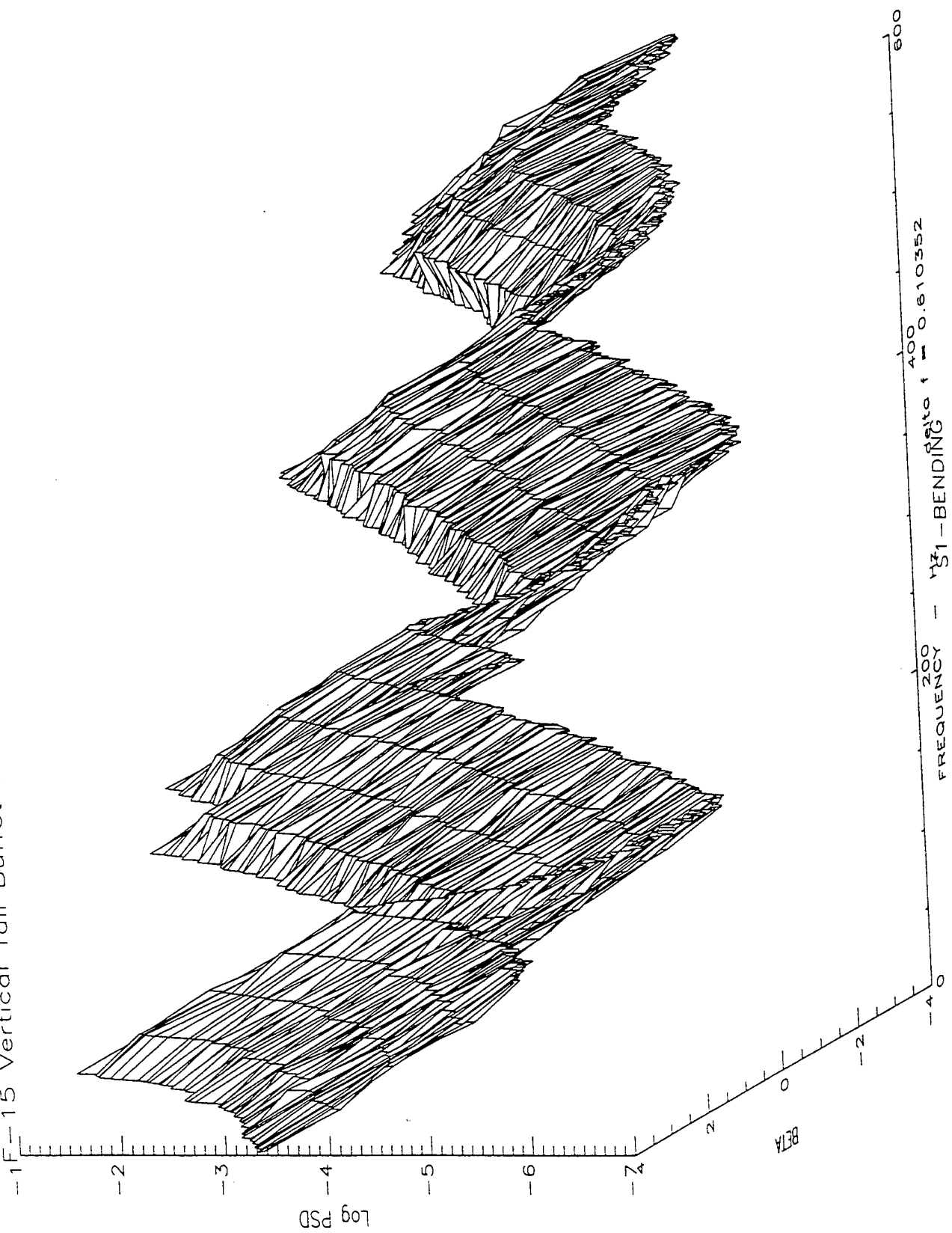
0F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing, Beta=-4



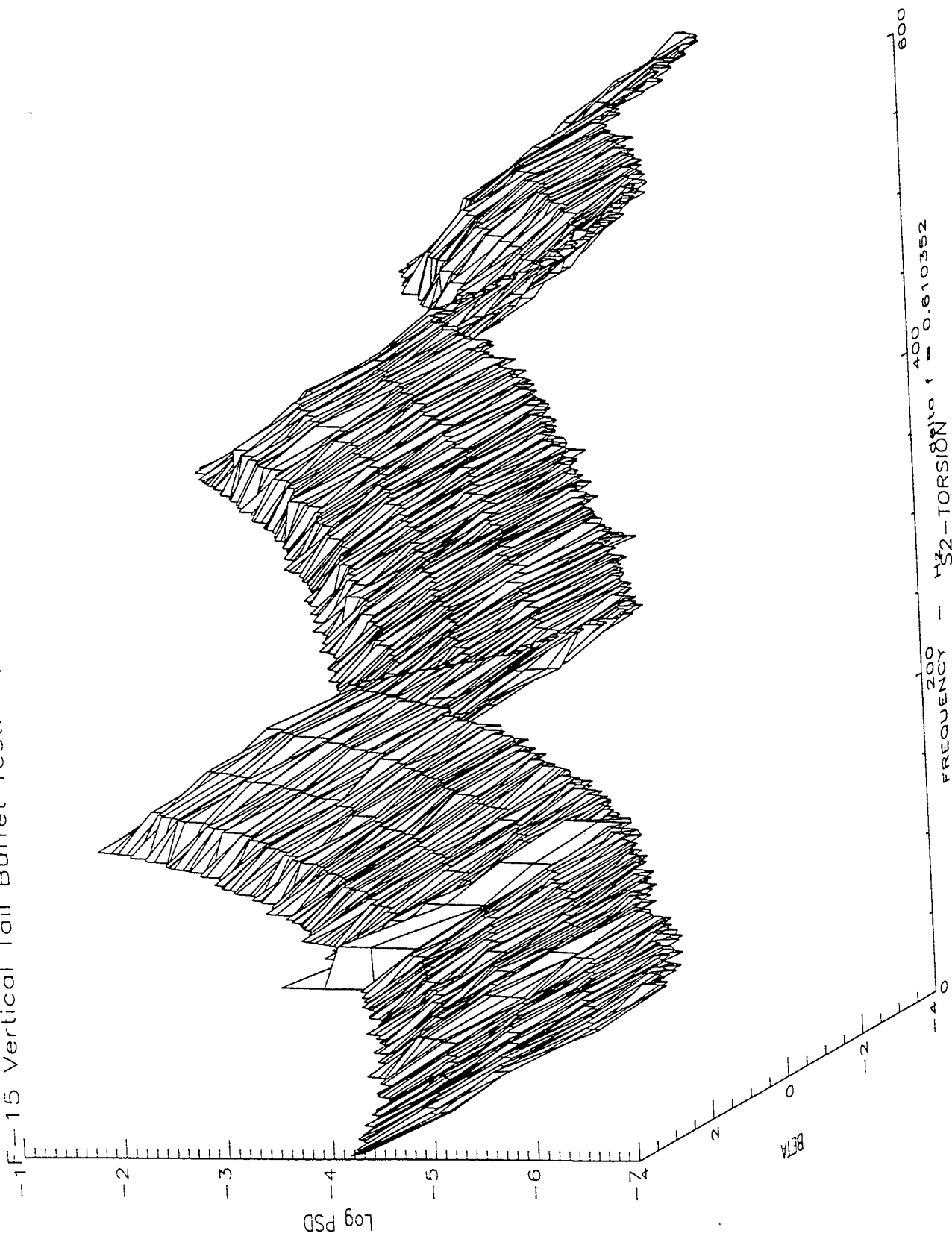
EF-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $Beta=-4$



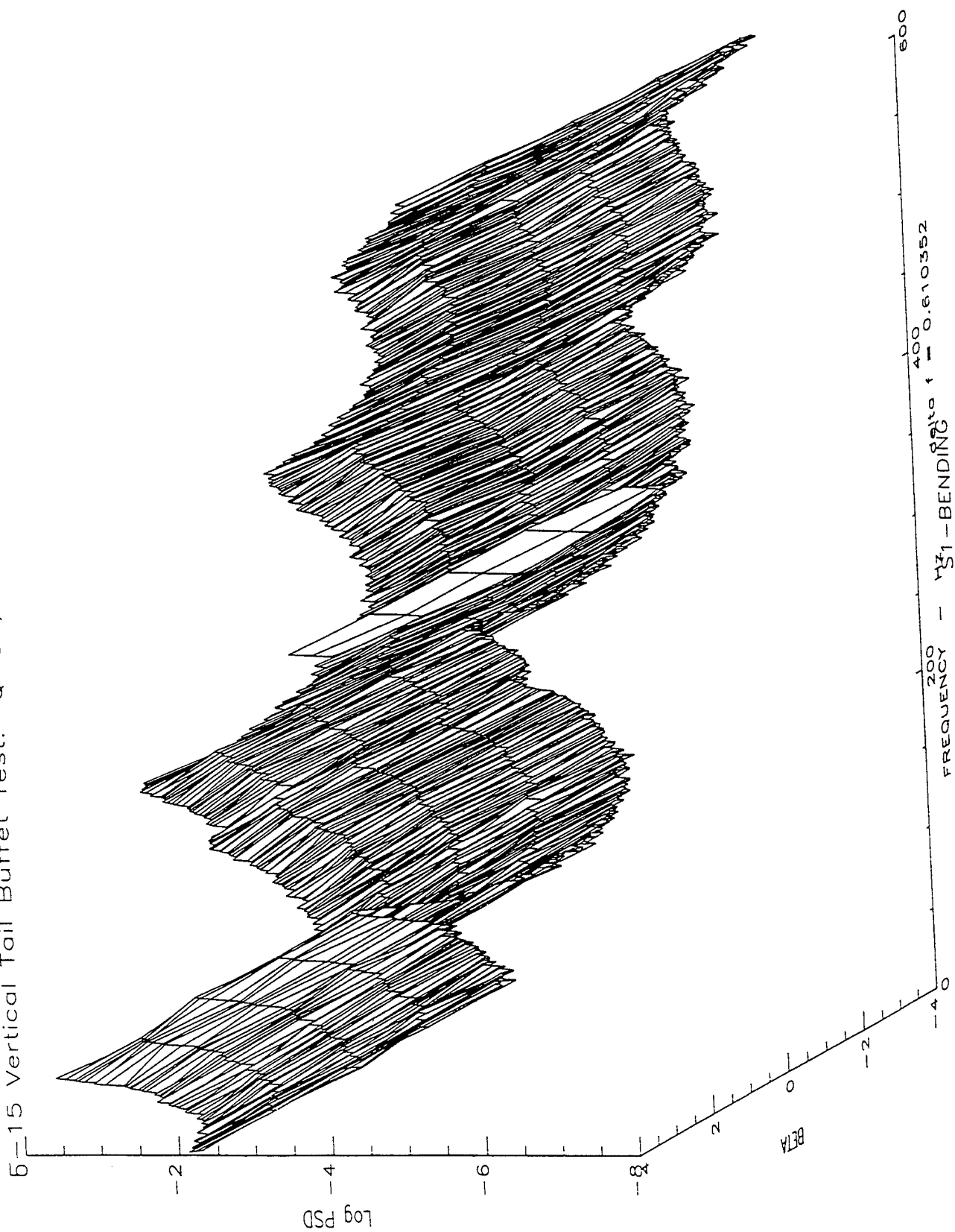
-1F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing, Alpha=22



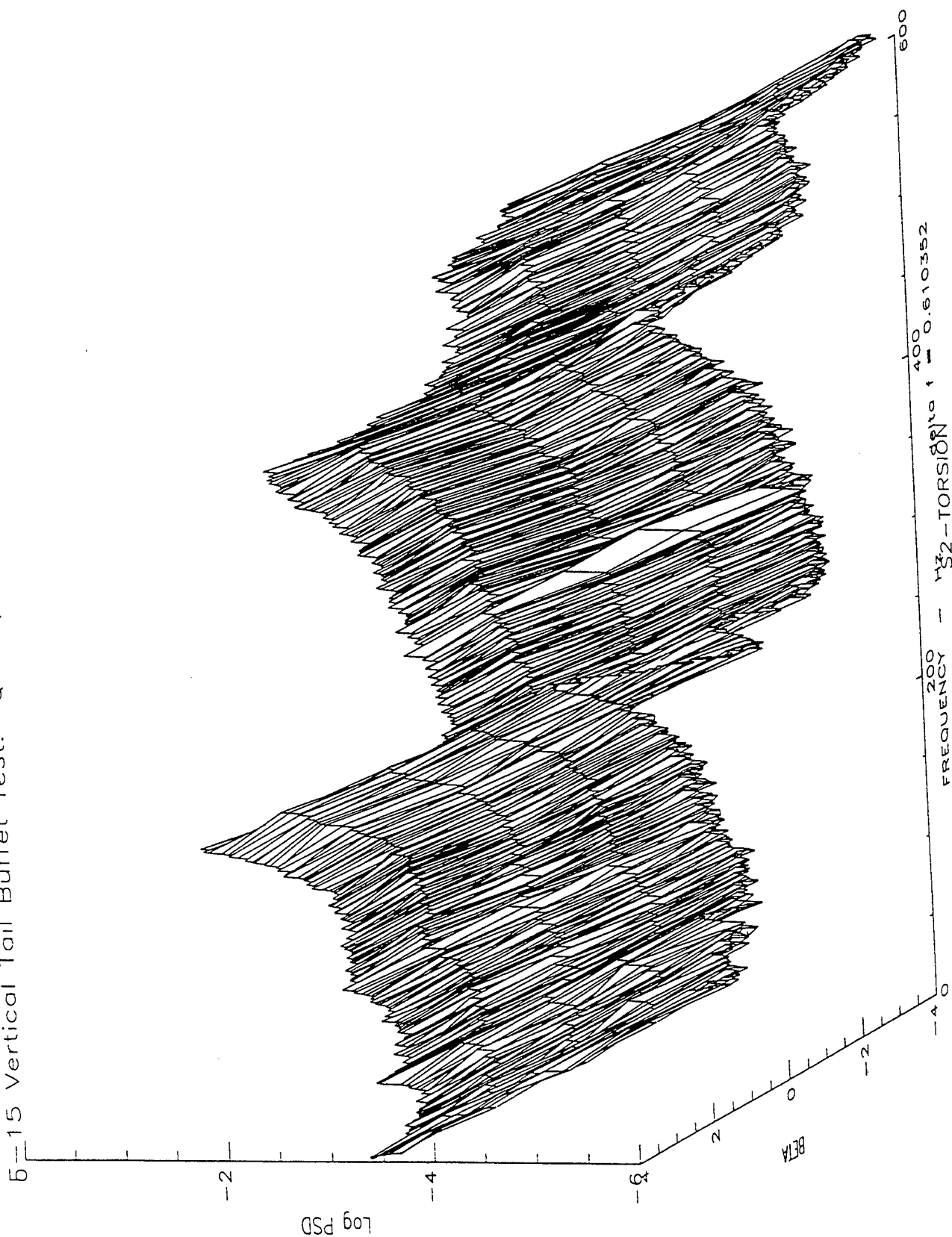
-1F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing, Alpha=22



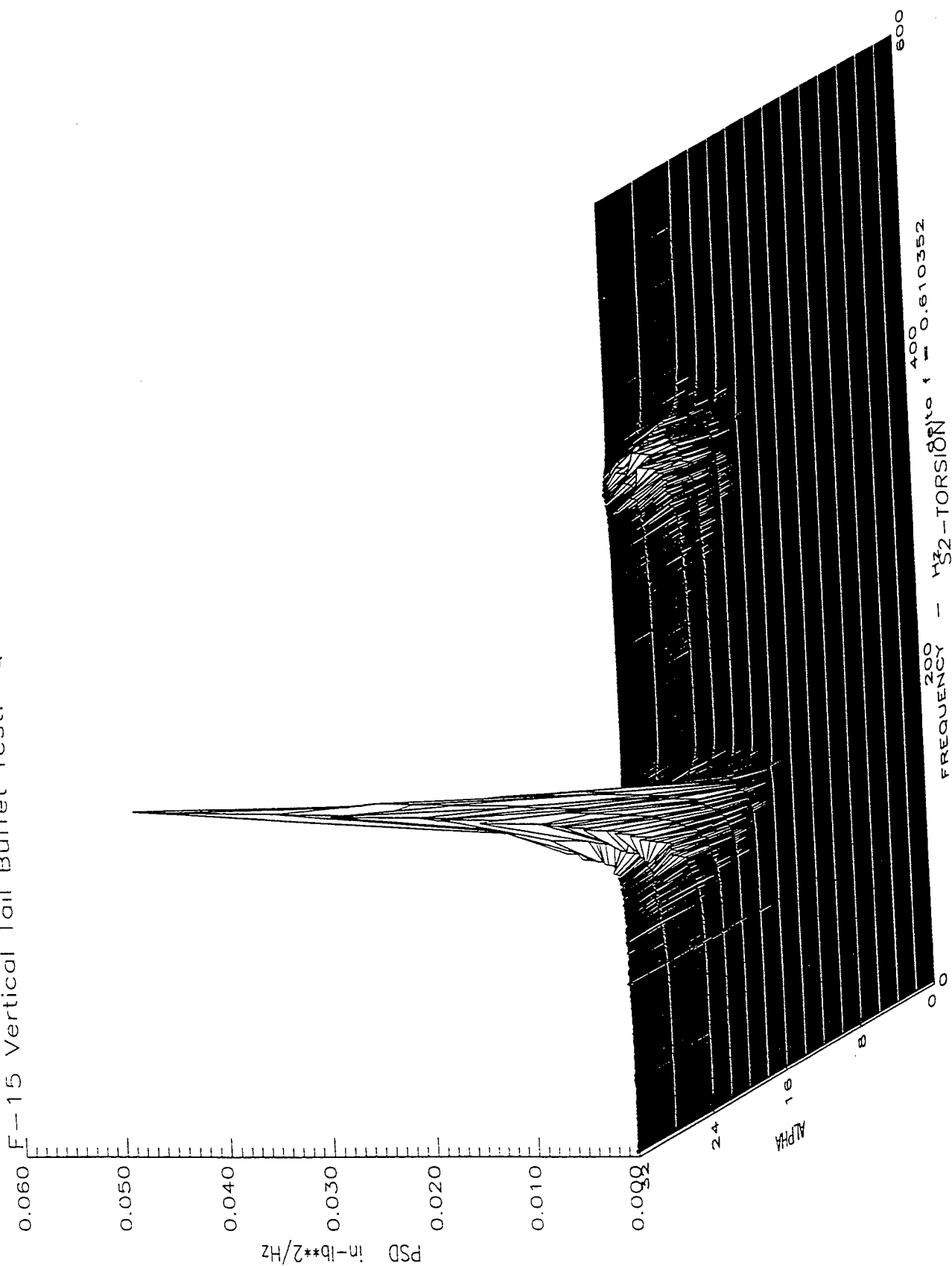
5-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $\alpha = 32$



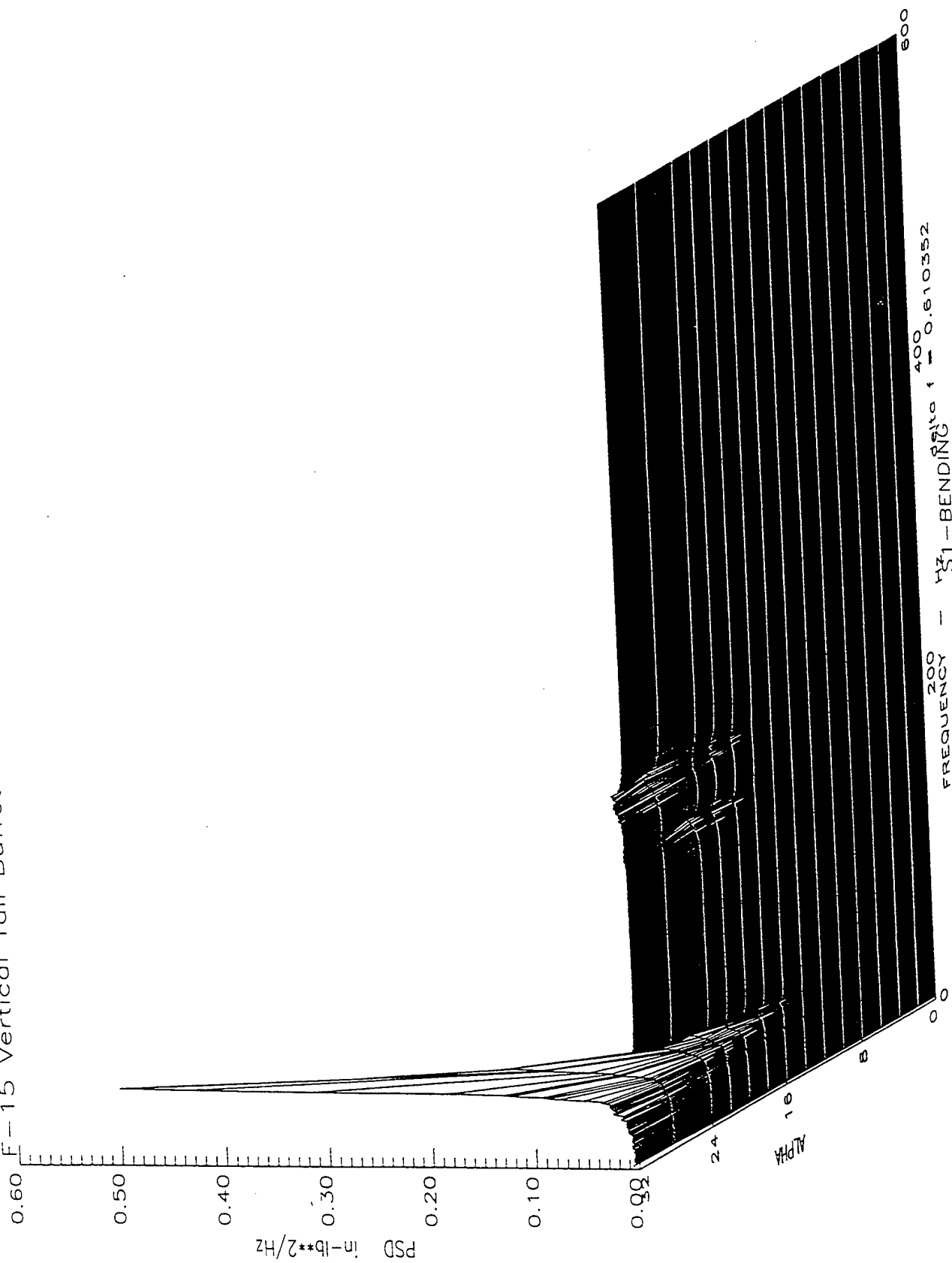
5-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $\text{Alpha} = 32$



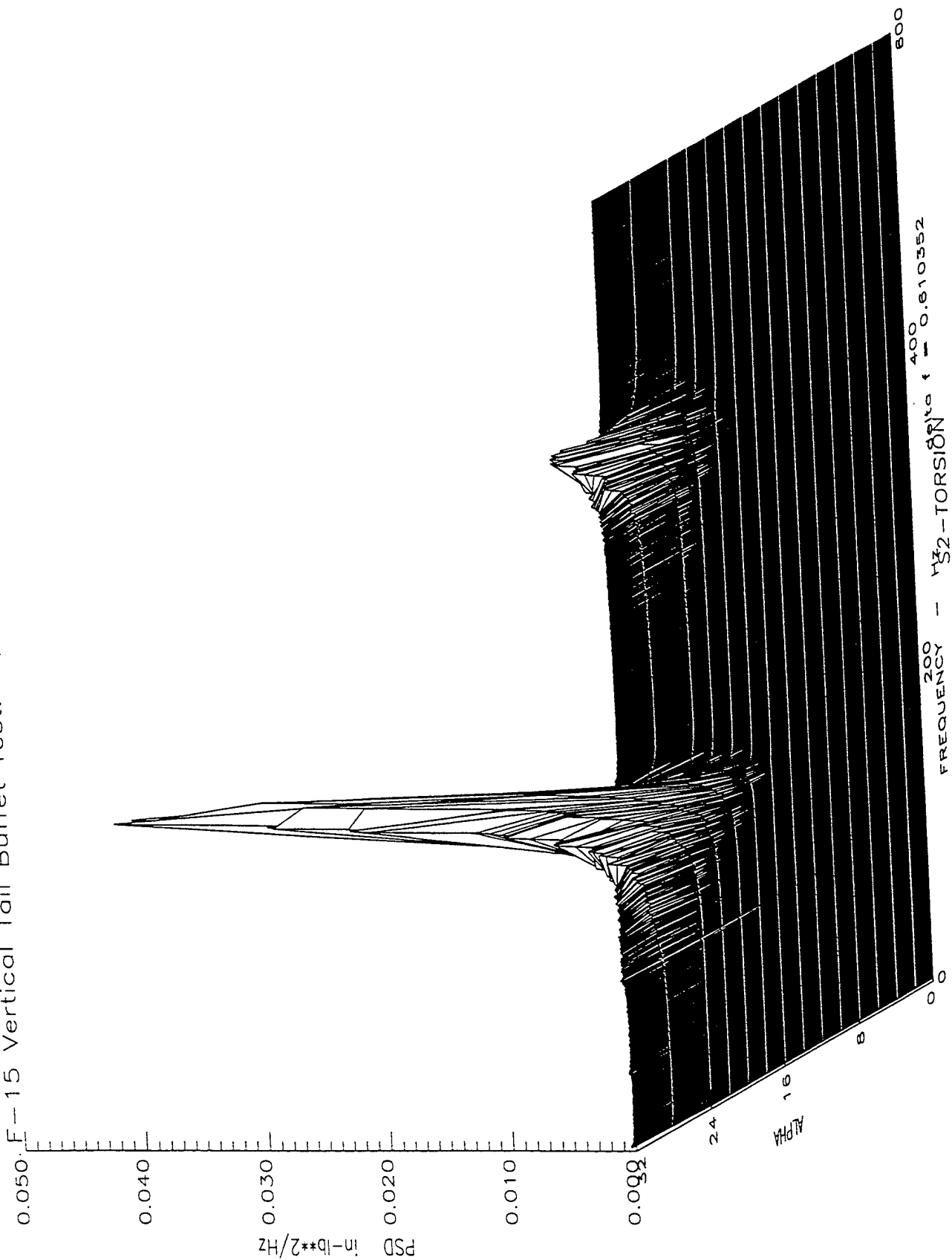
F-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $\text{Beta}=0$



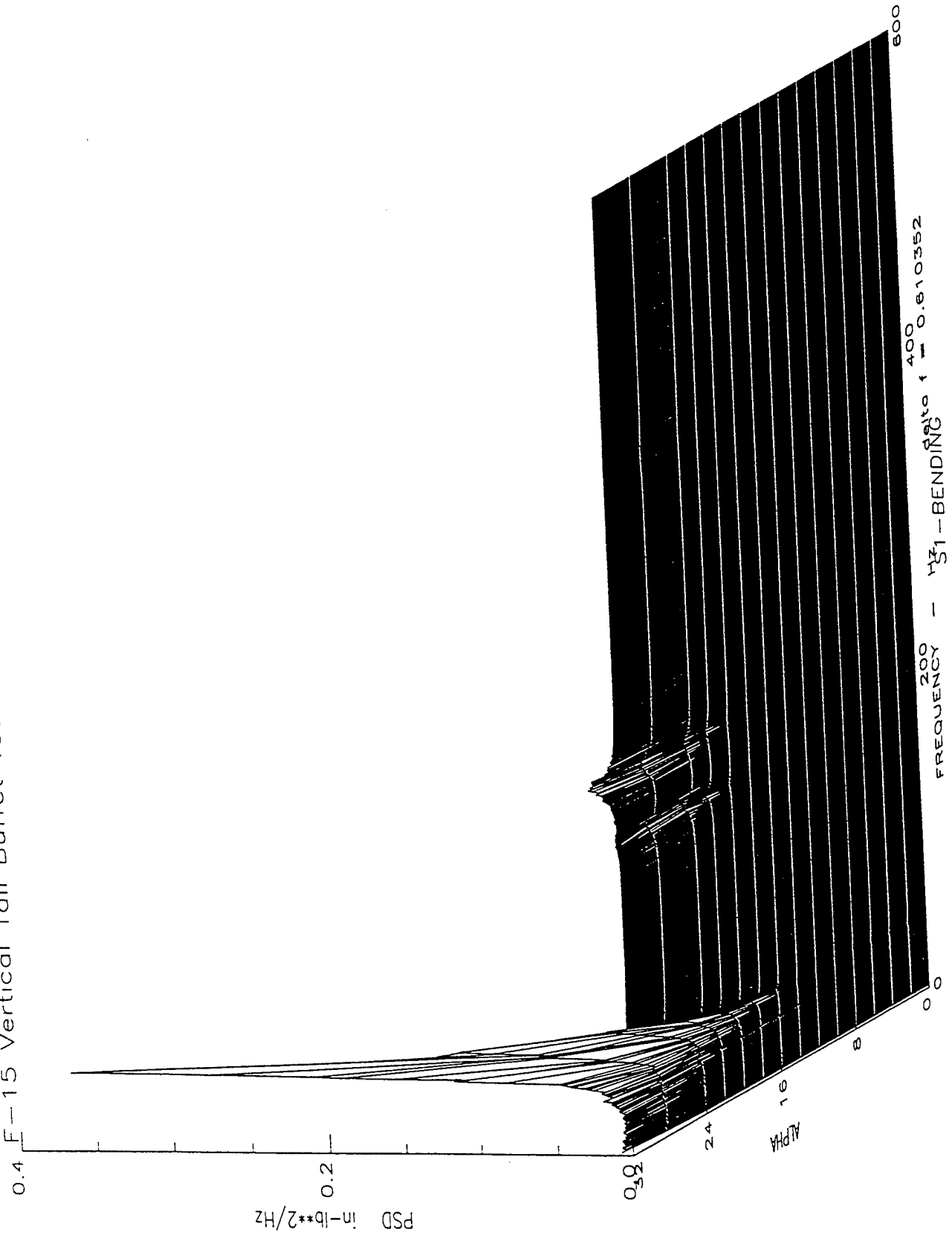
F-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $\text{Beta}=0$



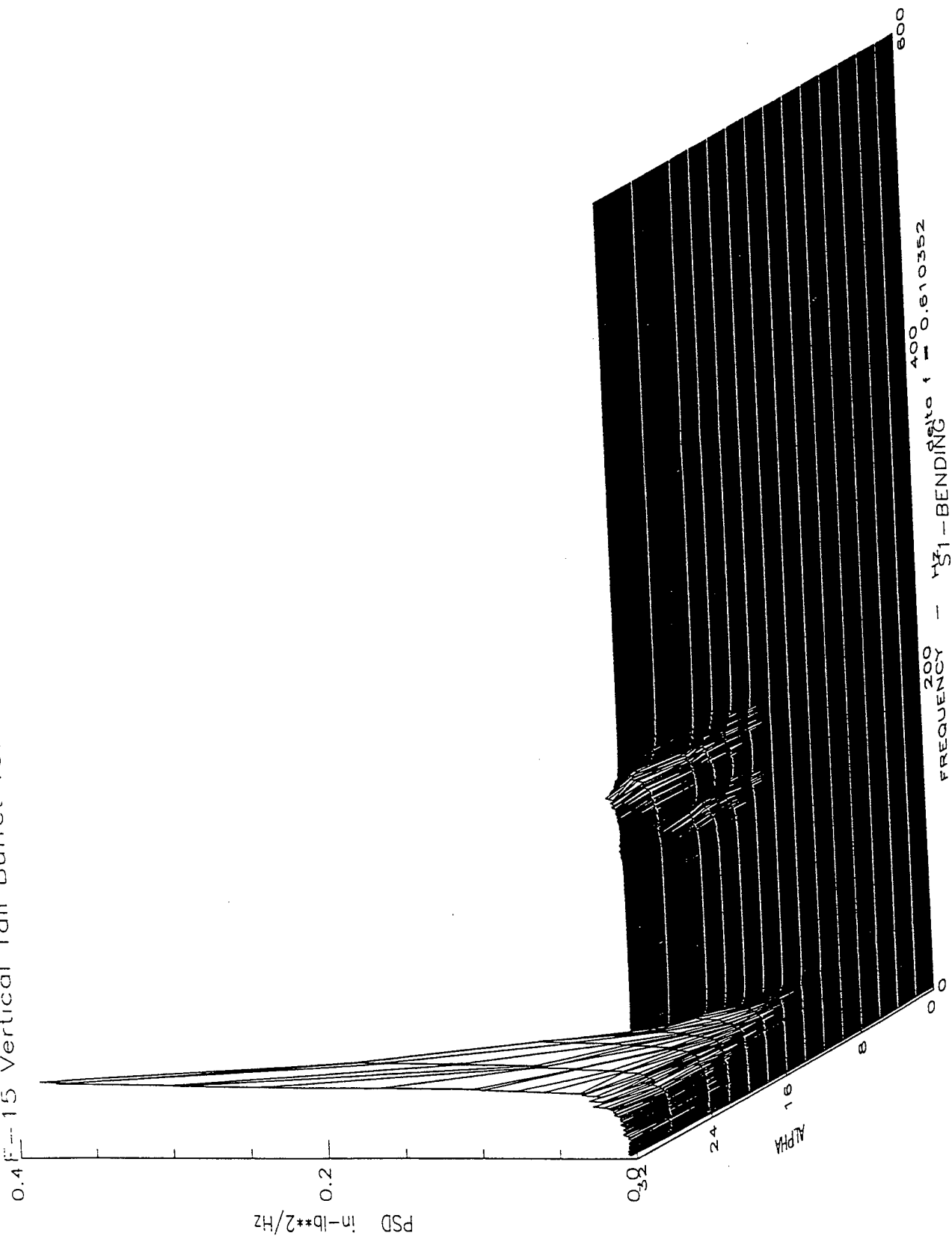
F-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $Beta=4$



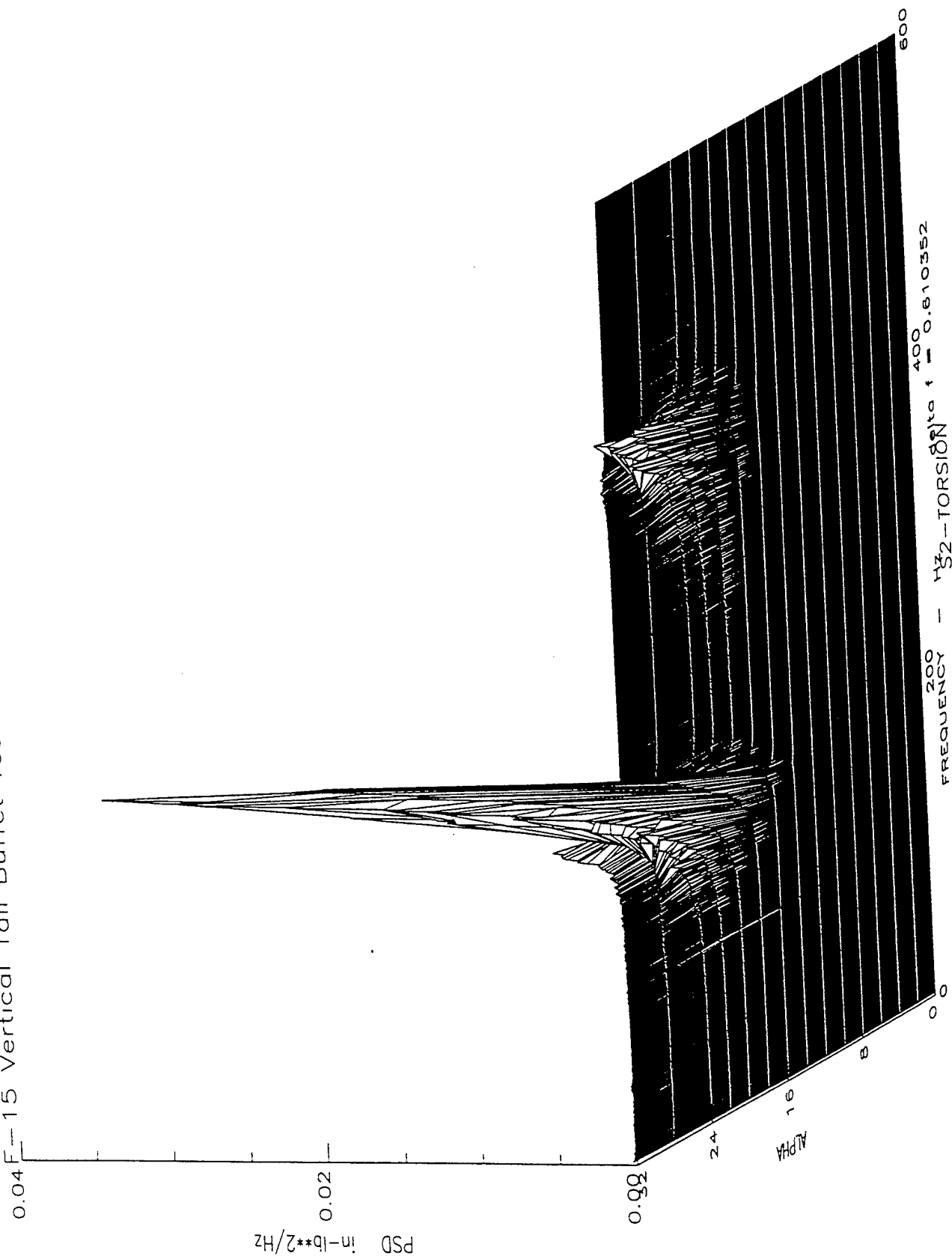
F-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $Beta=4$



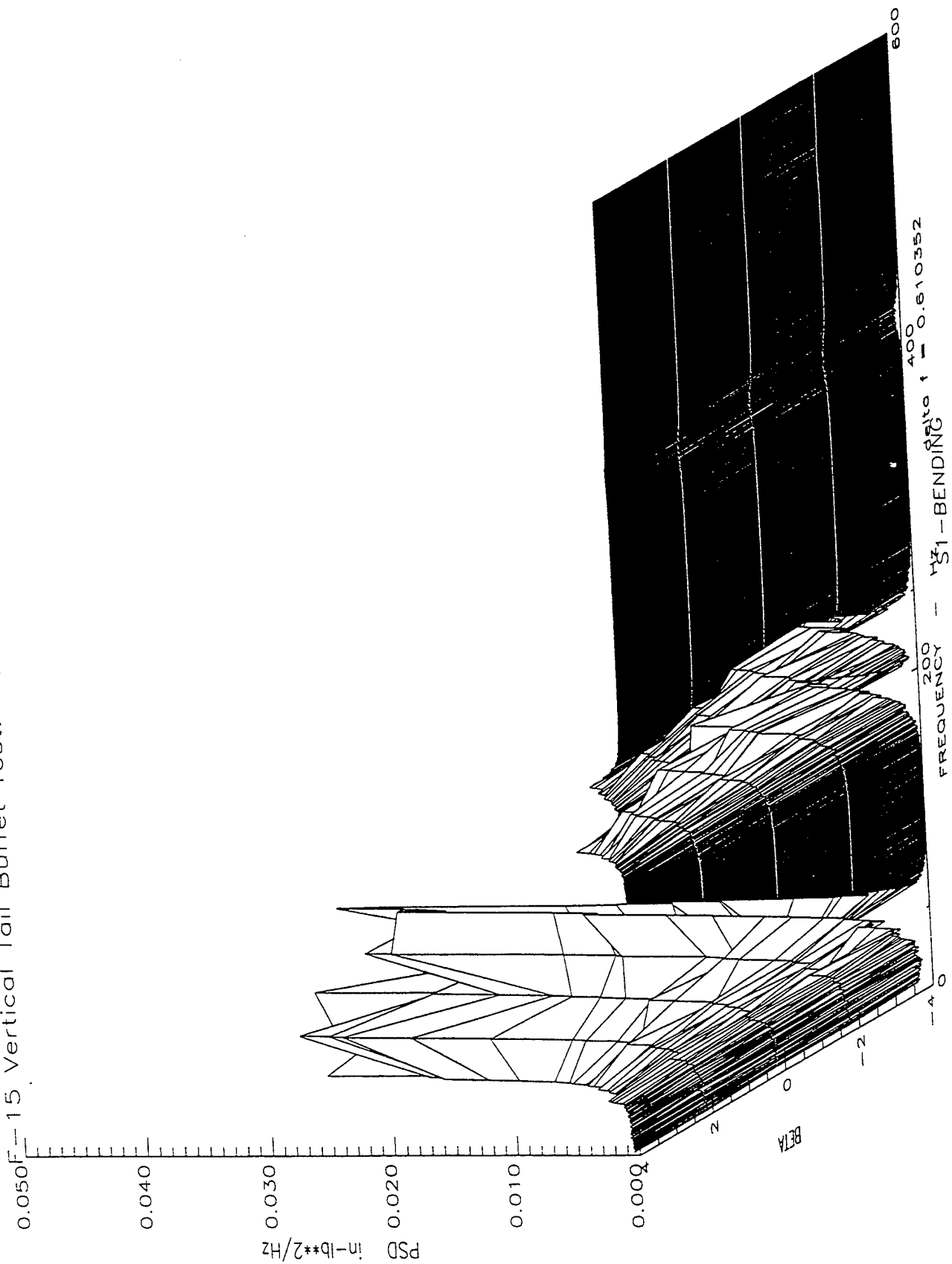
0.4 F-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $\text{Beta}=-4$



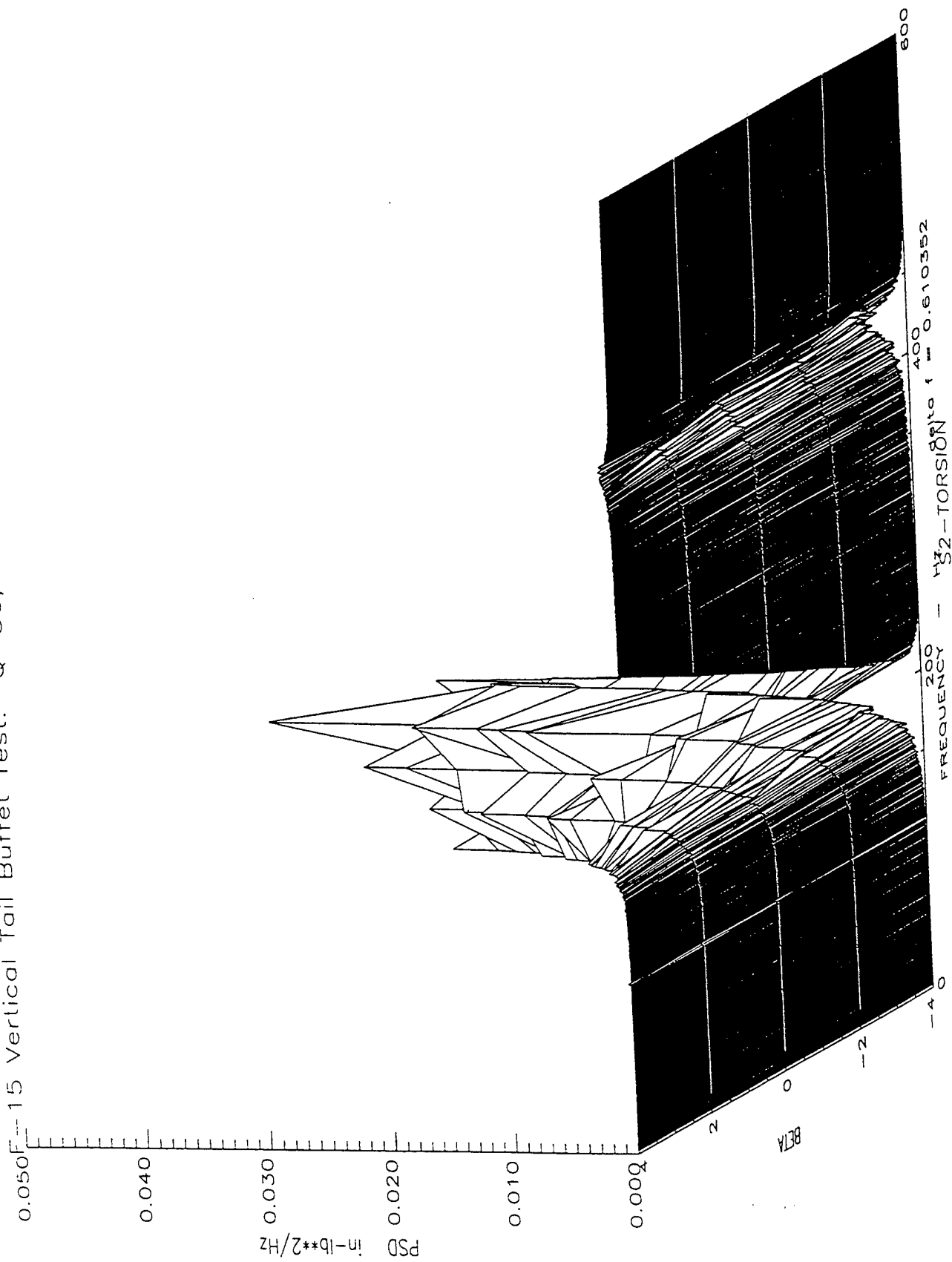
0.04 F-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $\text{Beta}=-4$



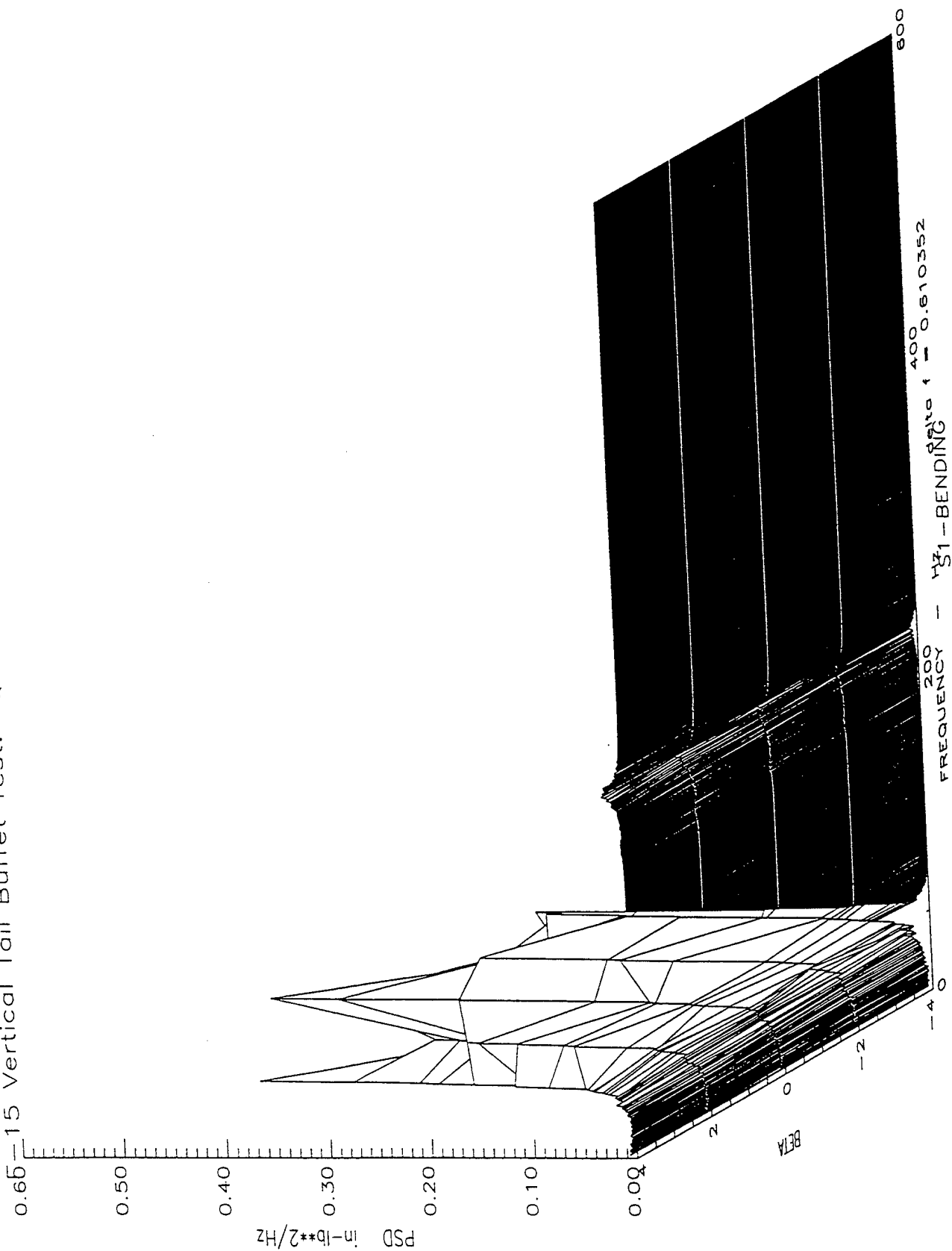
0.050F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing, Alpha=22



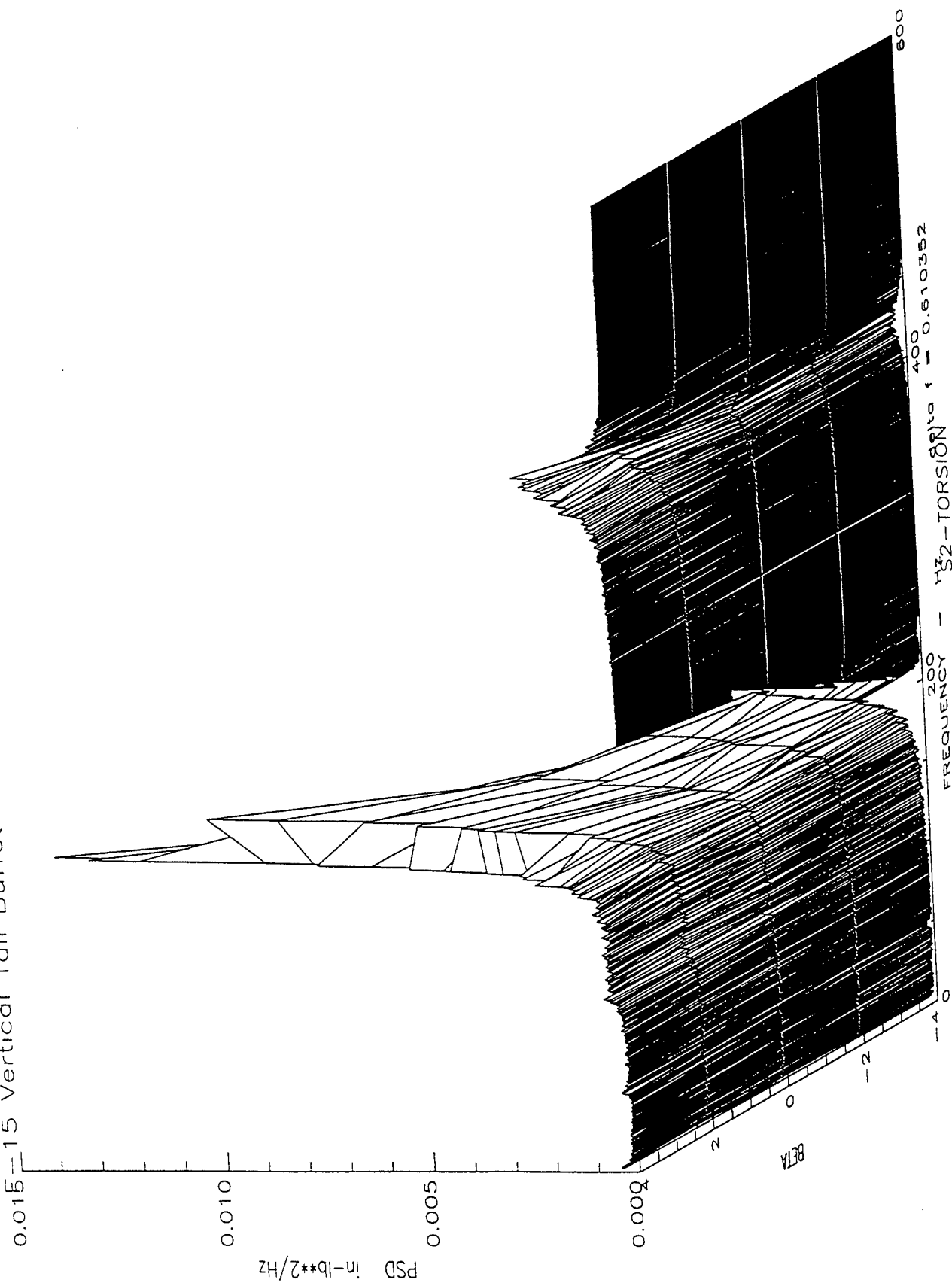
15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing, Alpha=22



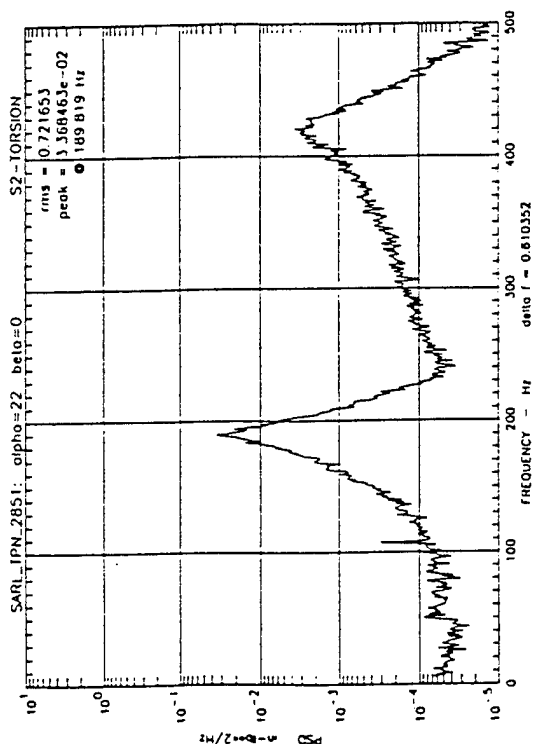
0.65-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $\alpha = 32$



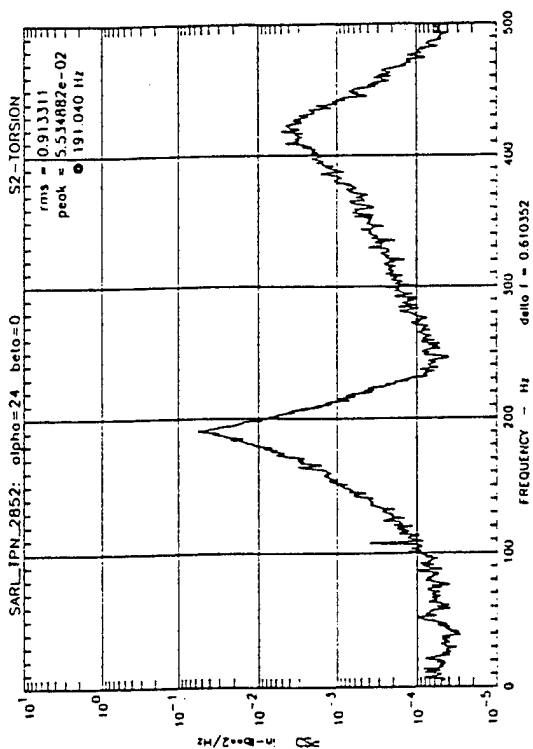
0.015 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $\text{Alpha} = 32$



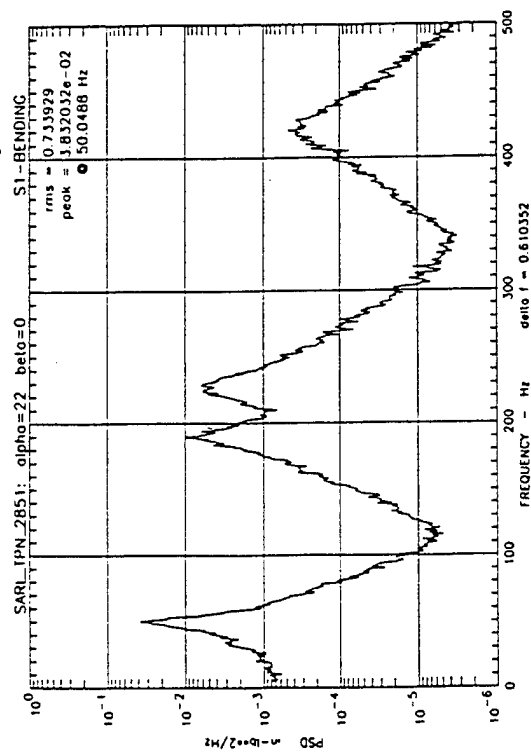
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



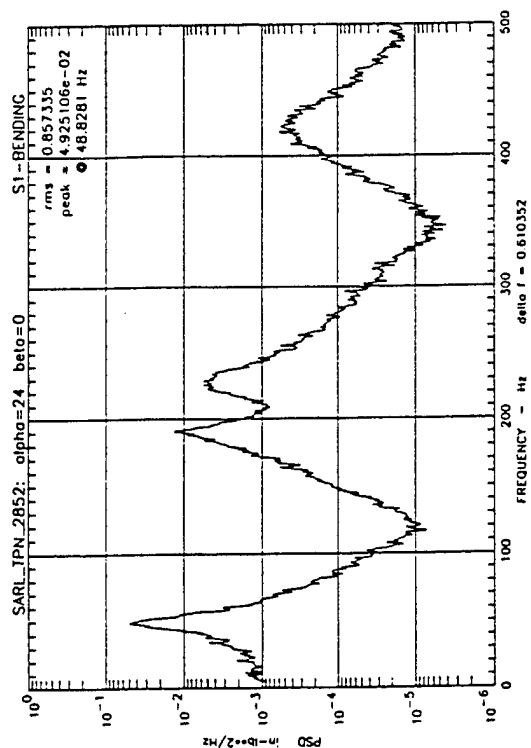
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



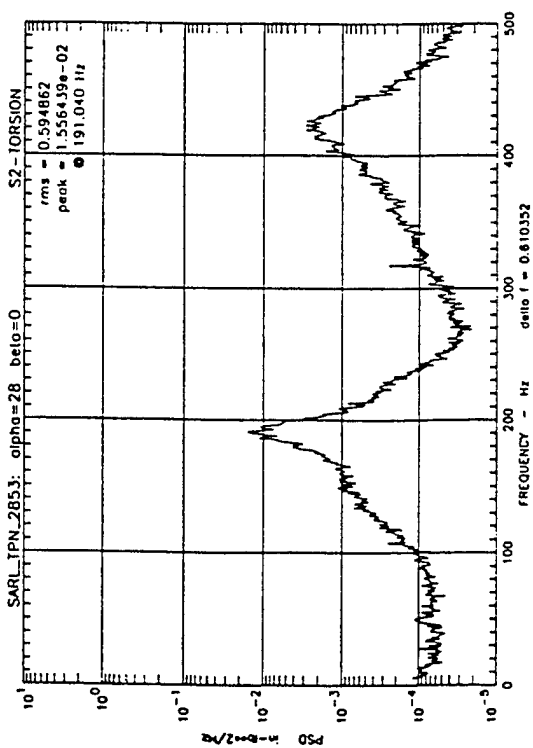
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



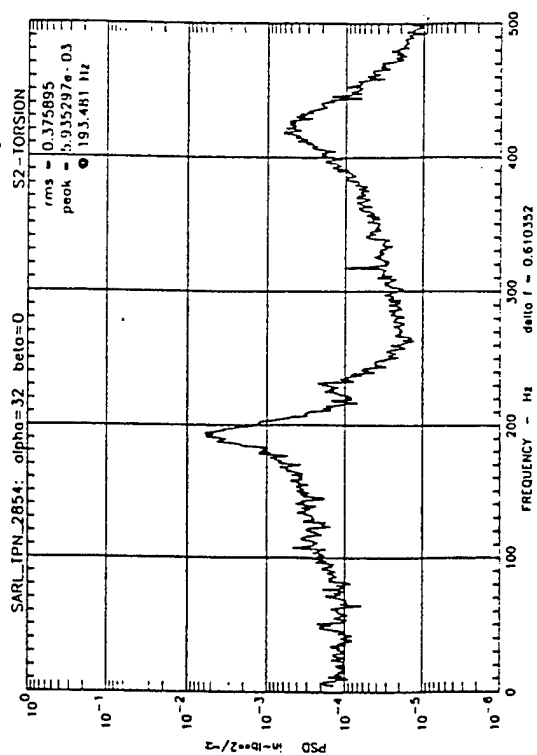
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



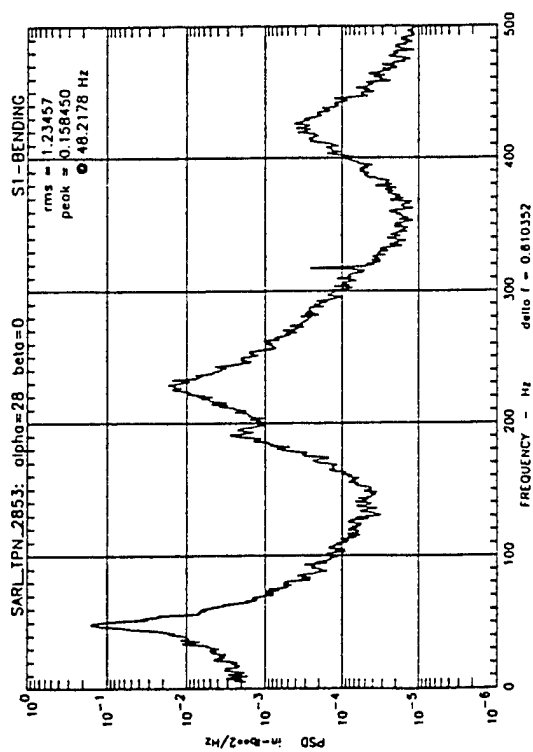
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



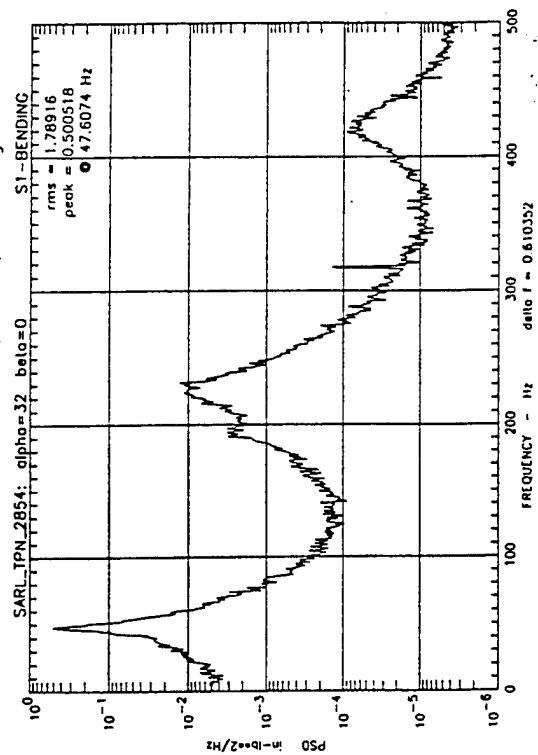
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



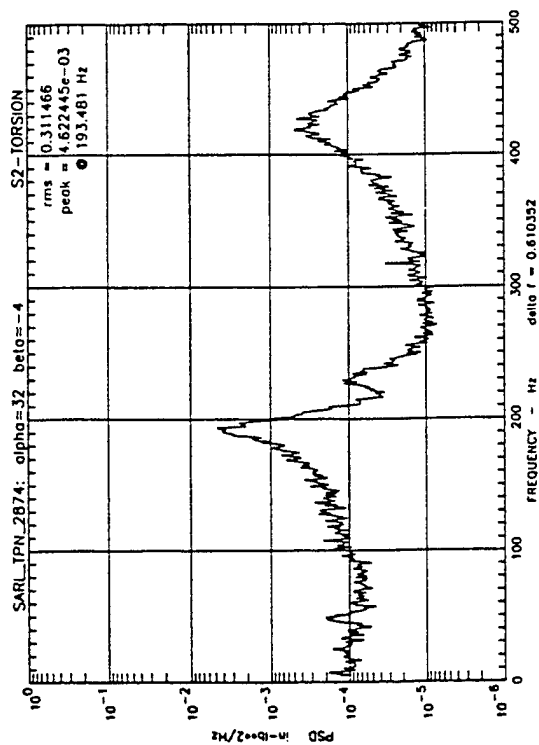
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



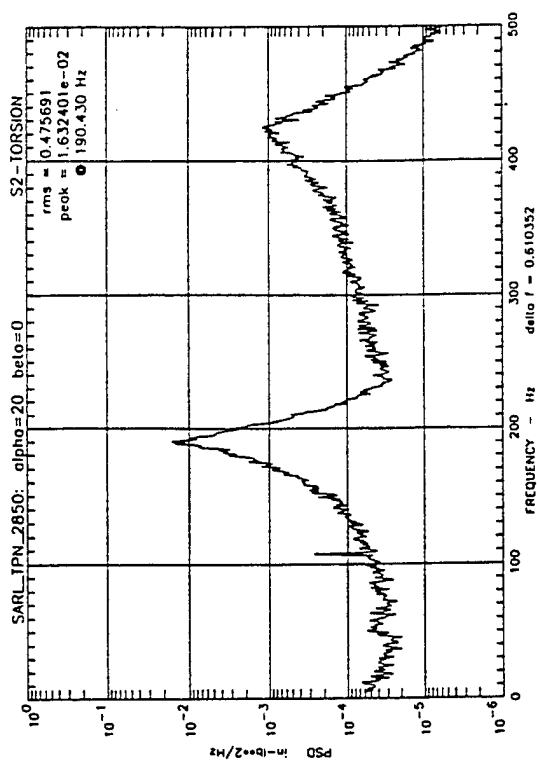
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



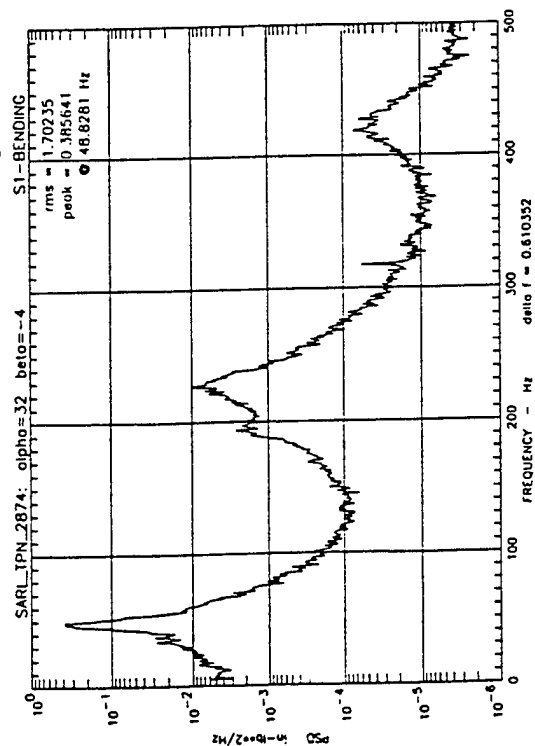
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



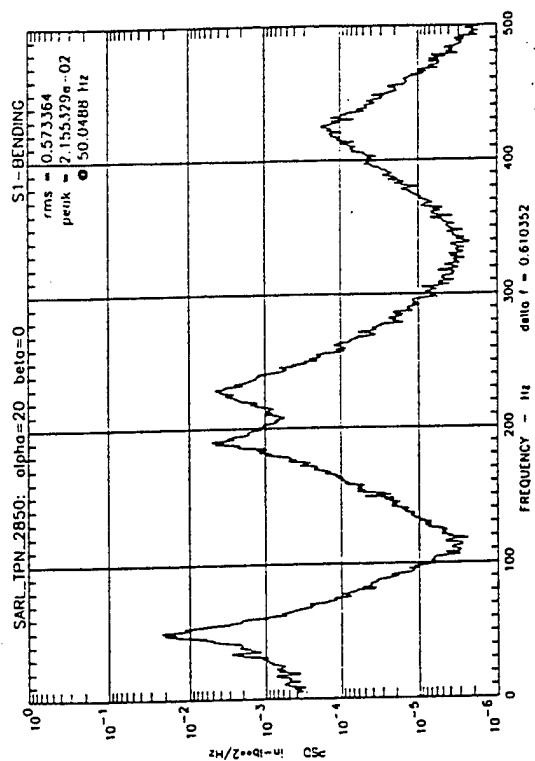
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



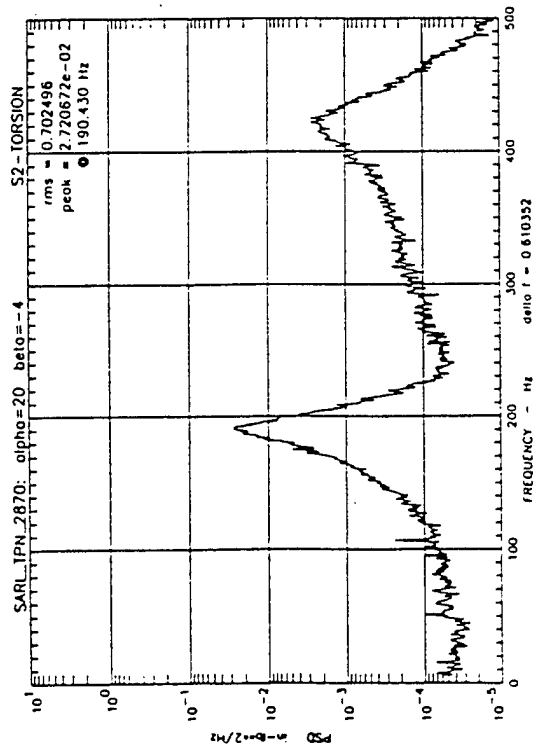
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



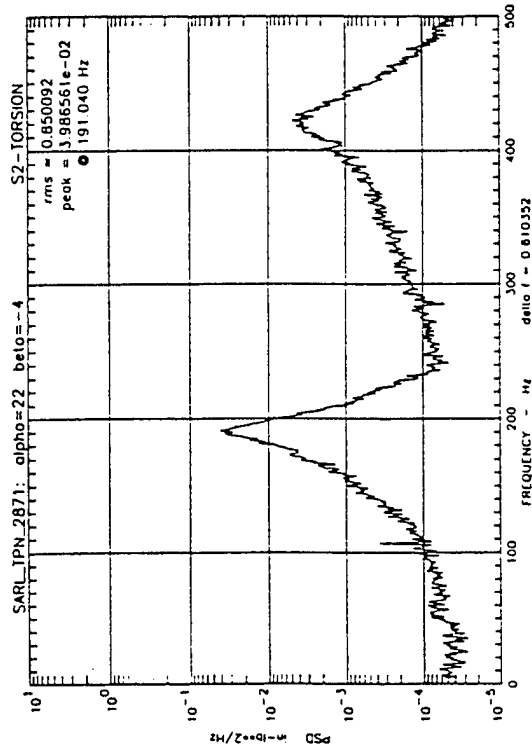
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



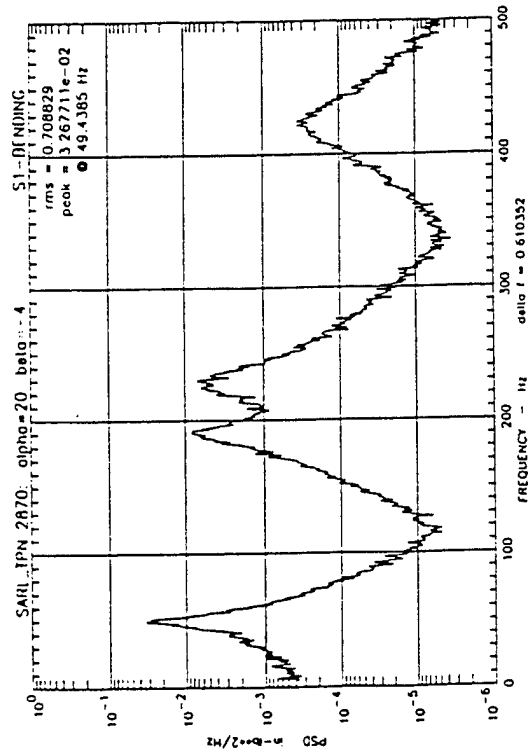
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



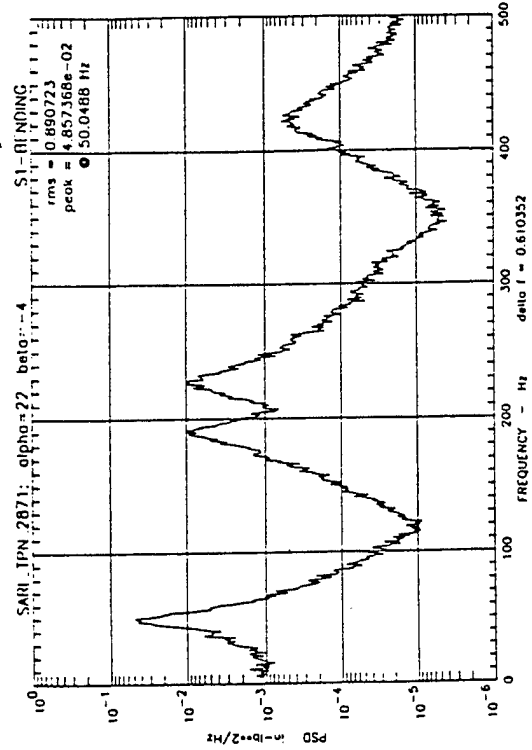
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



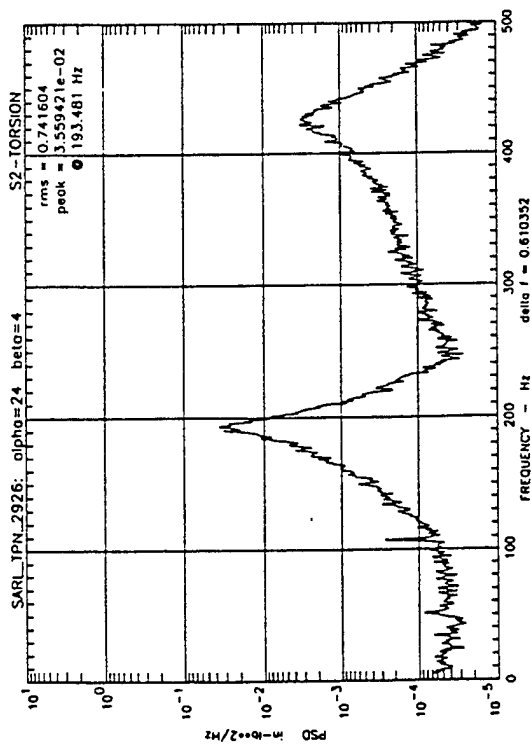
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



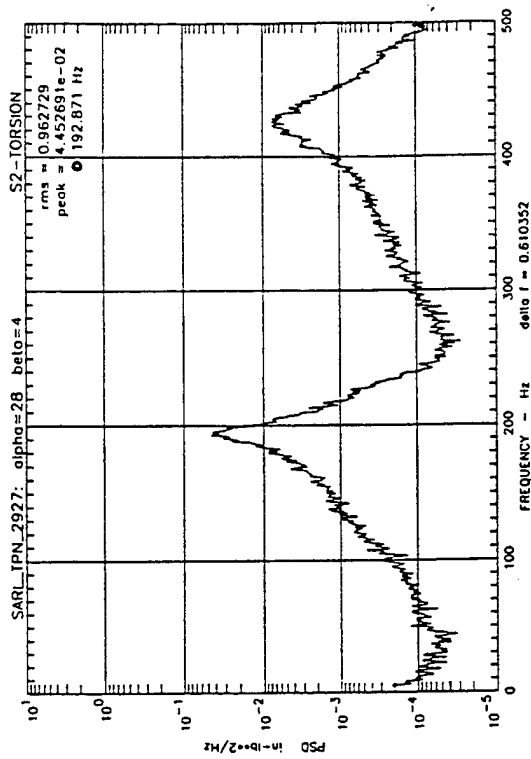
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



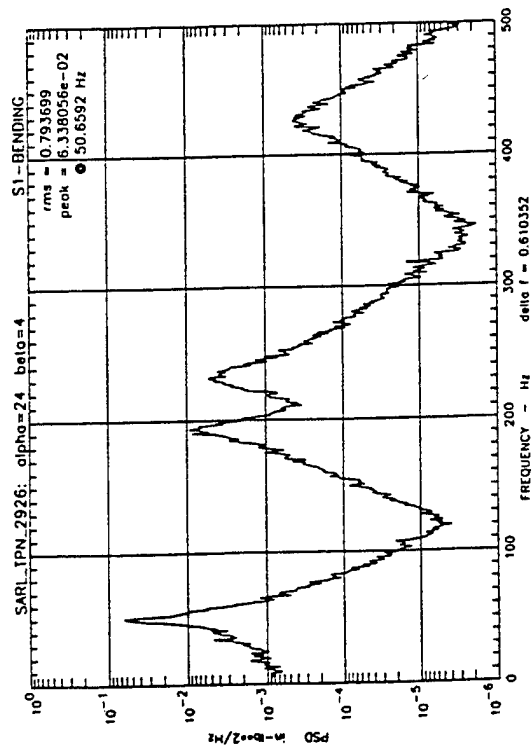
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



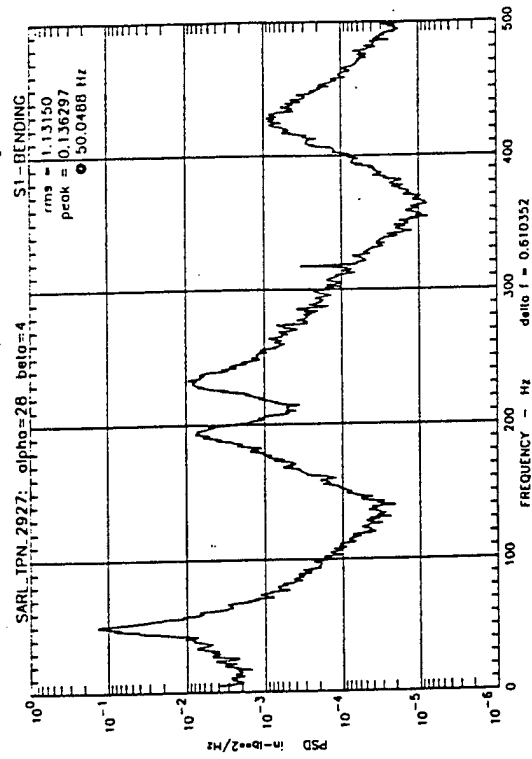
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



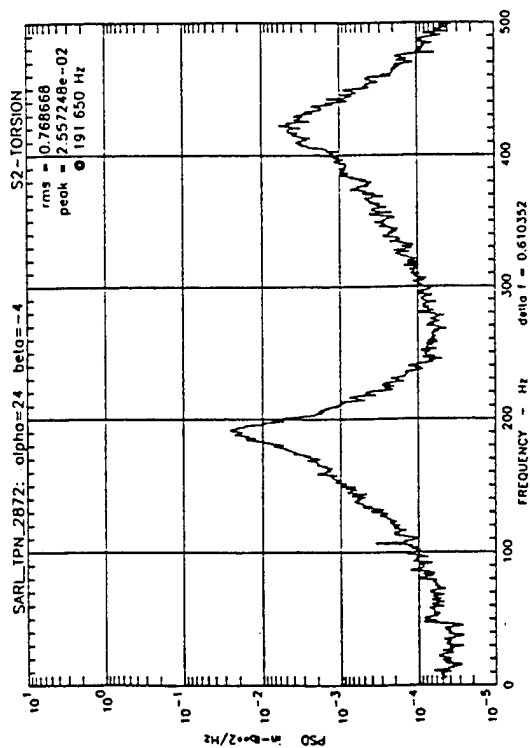
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



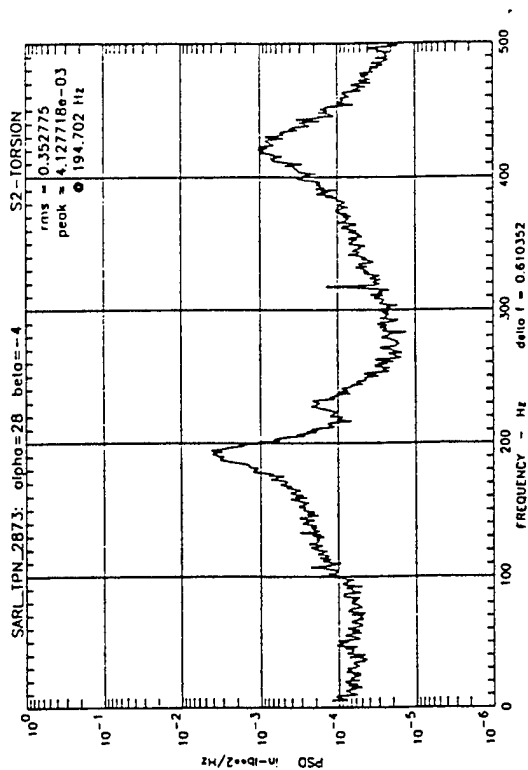
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



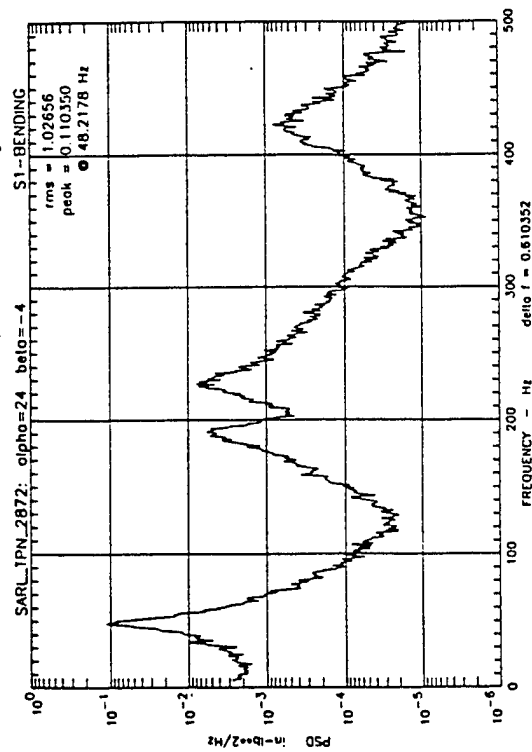
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



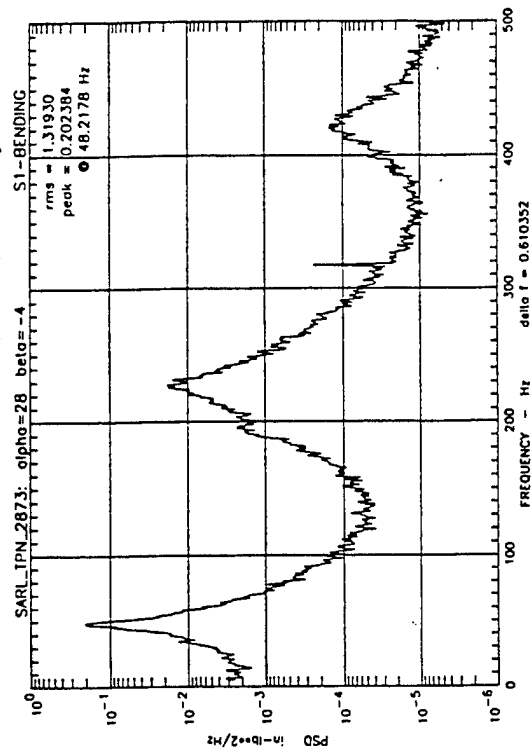
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



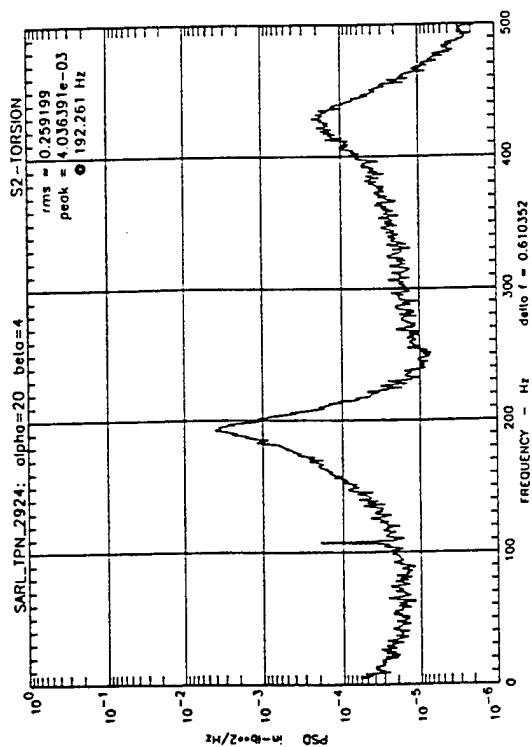
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



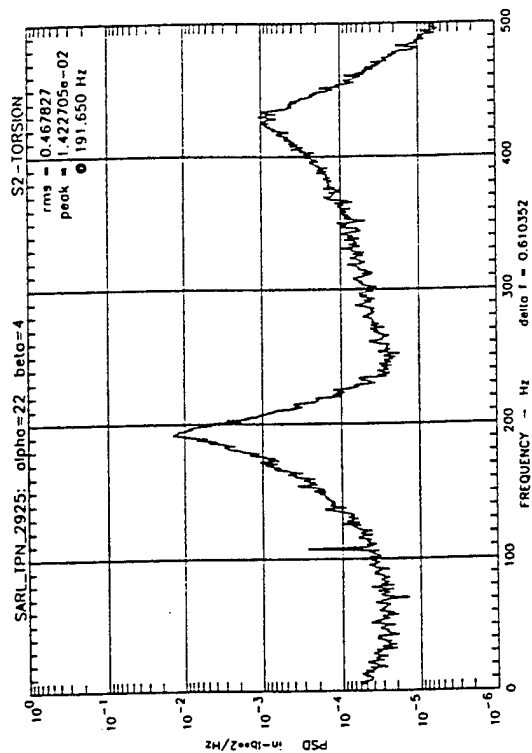
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



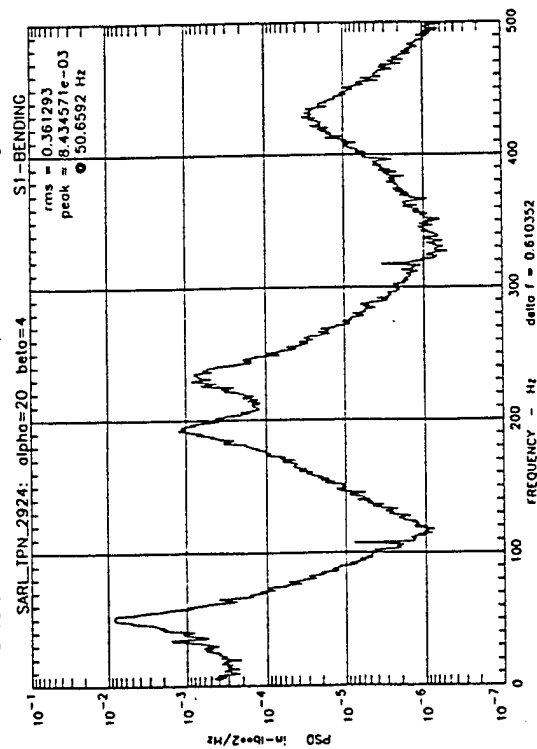
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



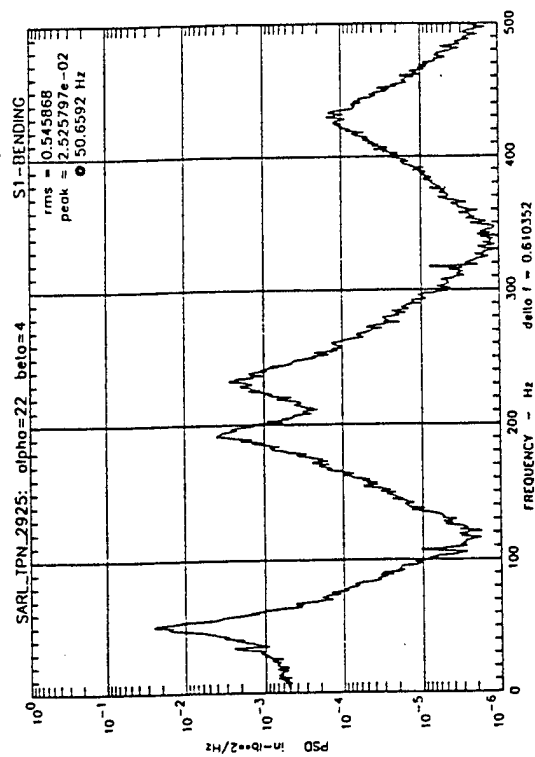
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



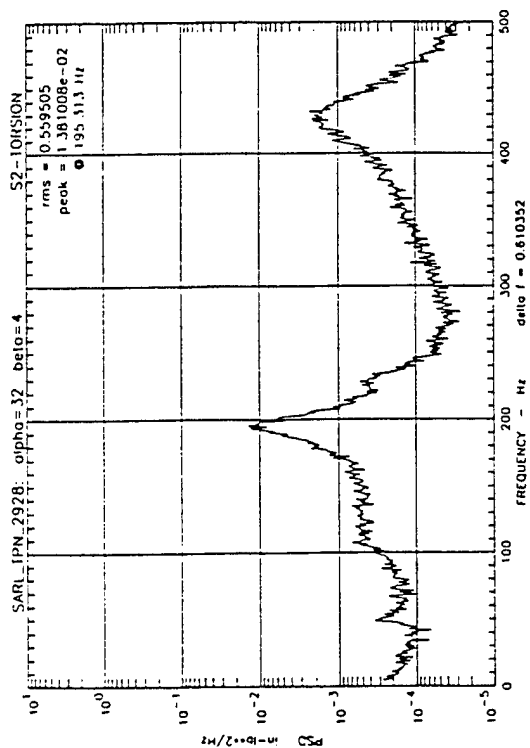
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



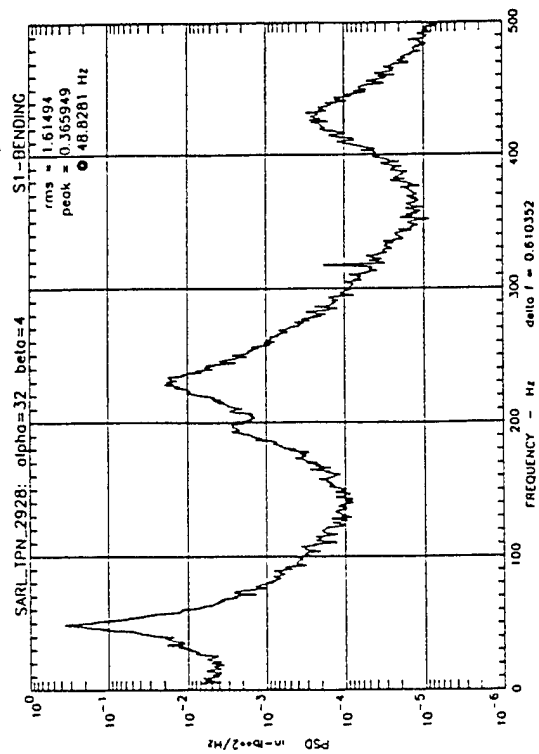
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



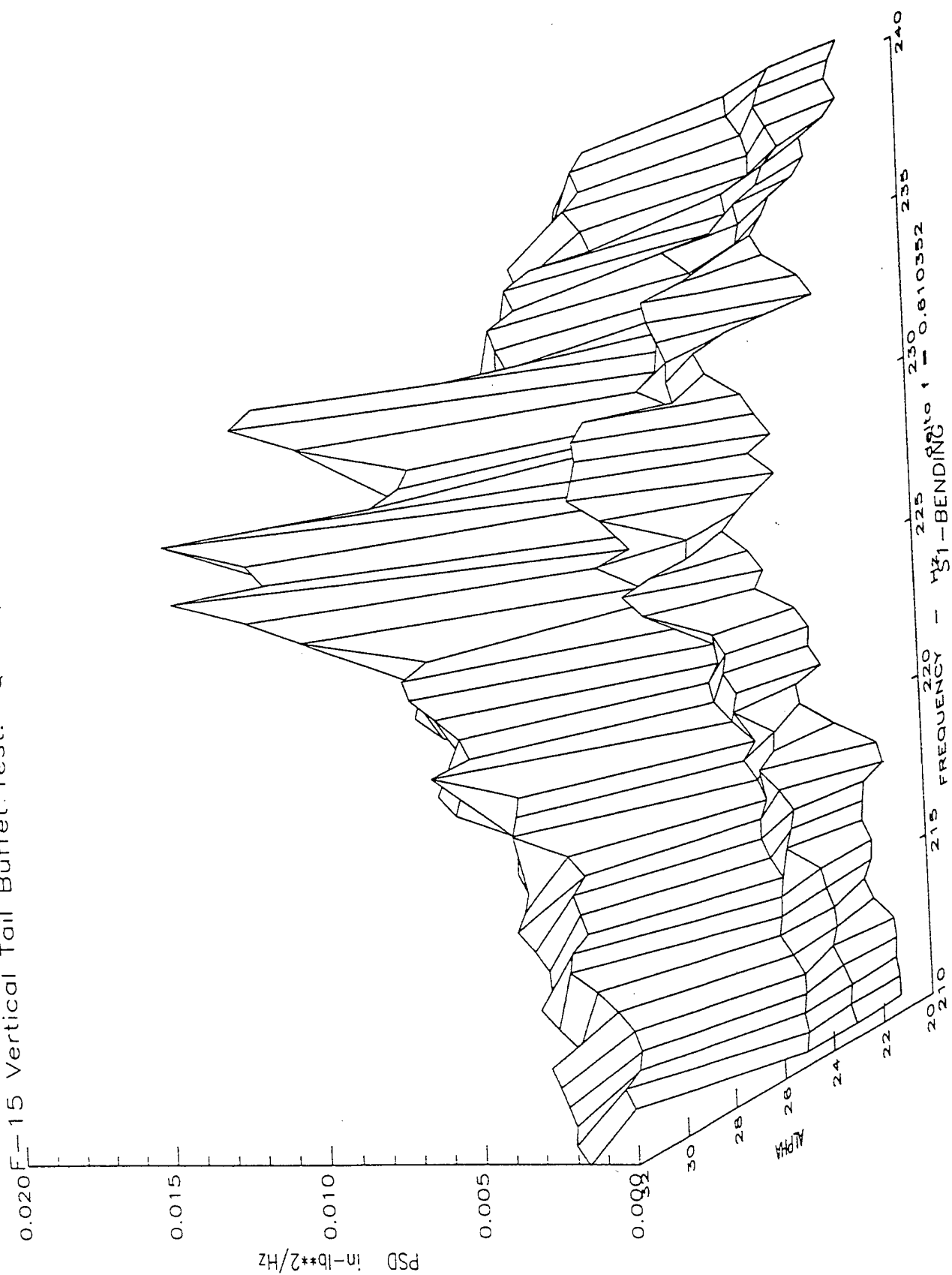
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



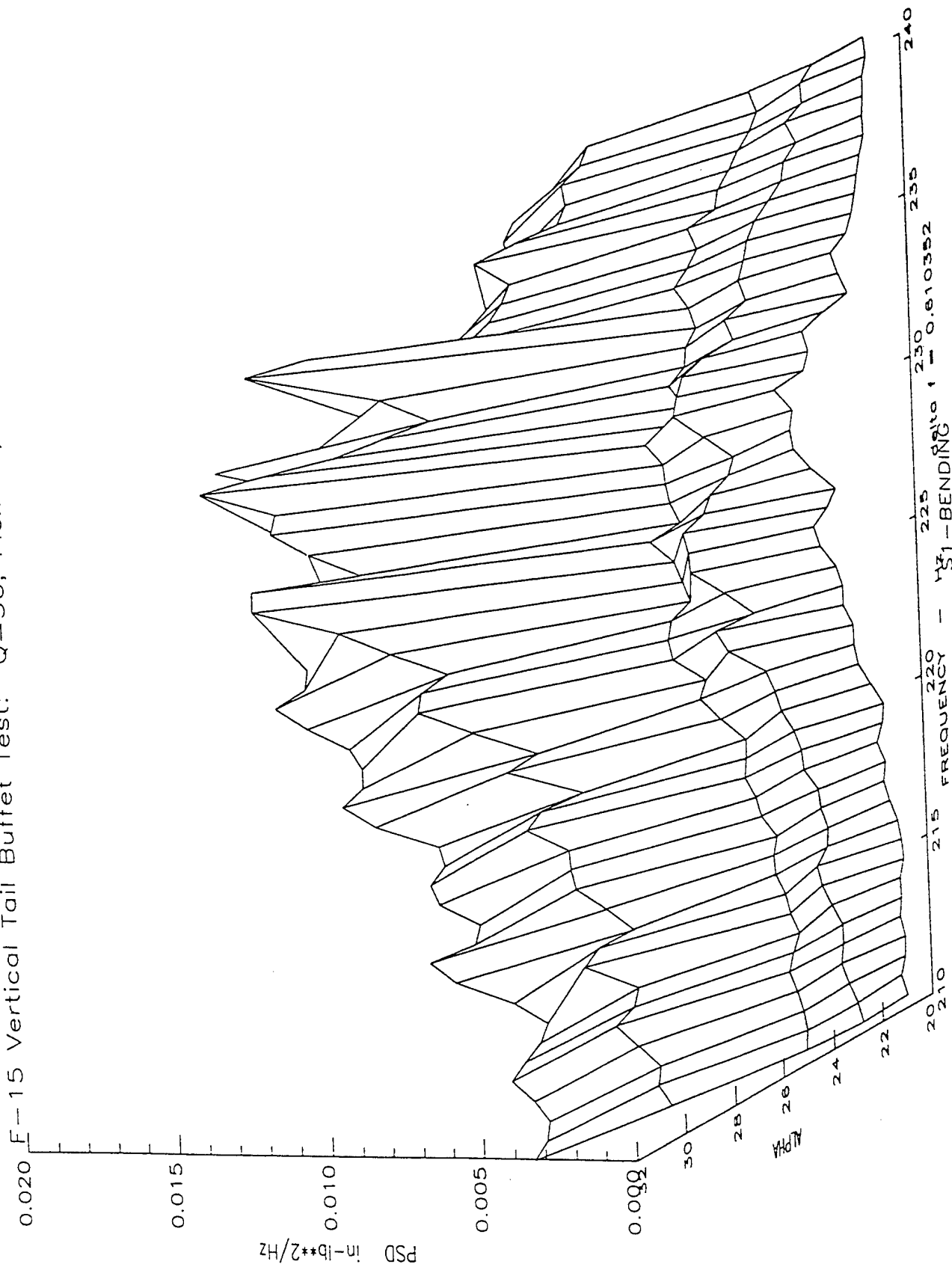
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing



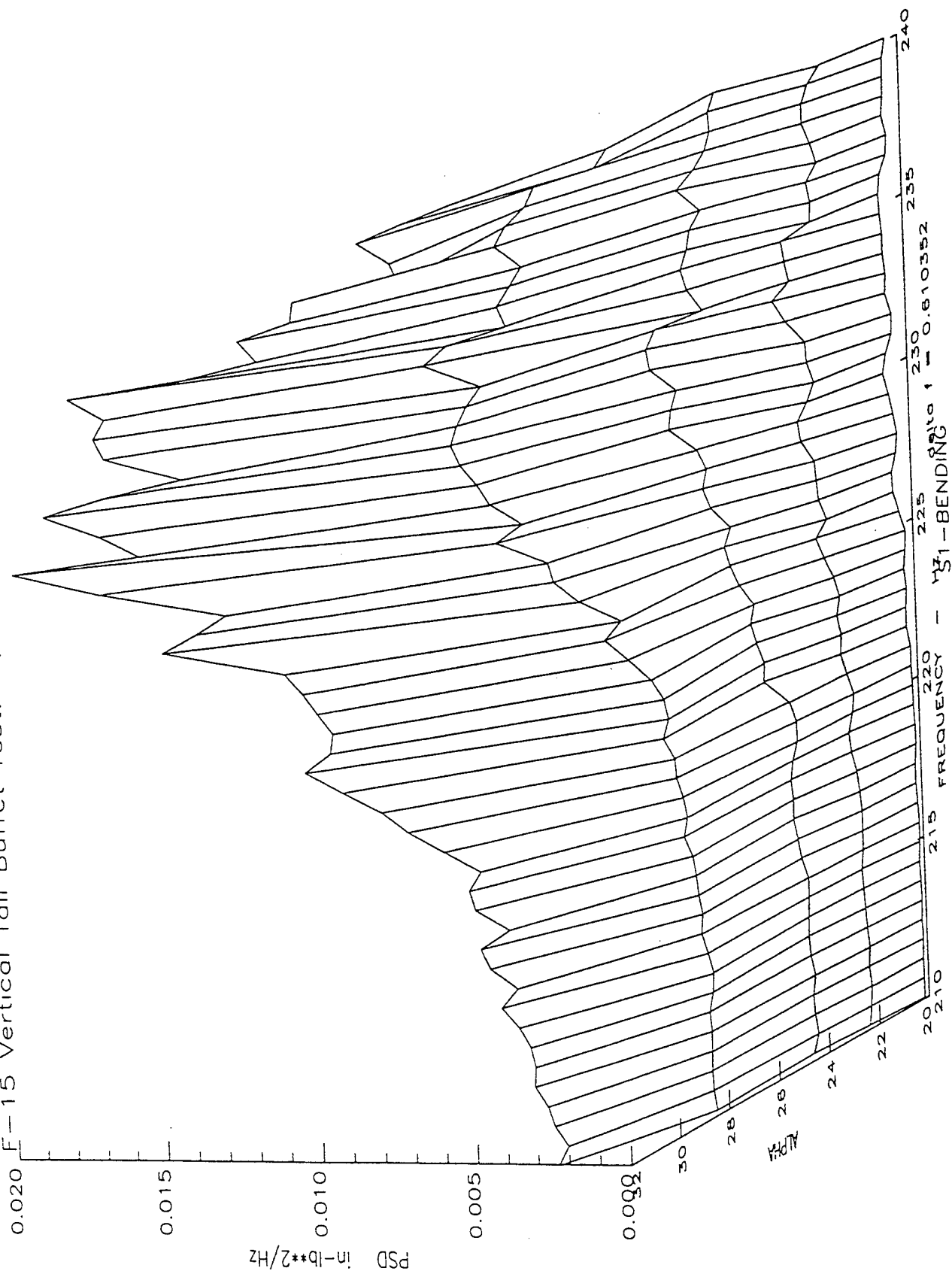
F-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $\text{Beta}=-4$



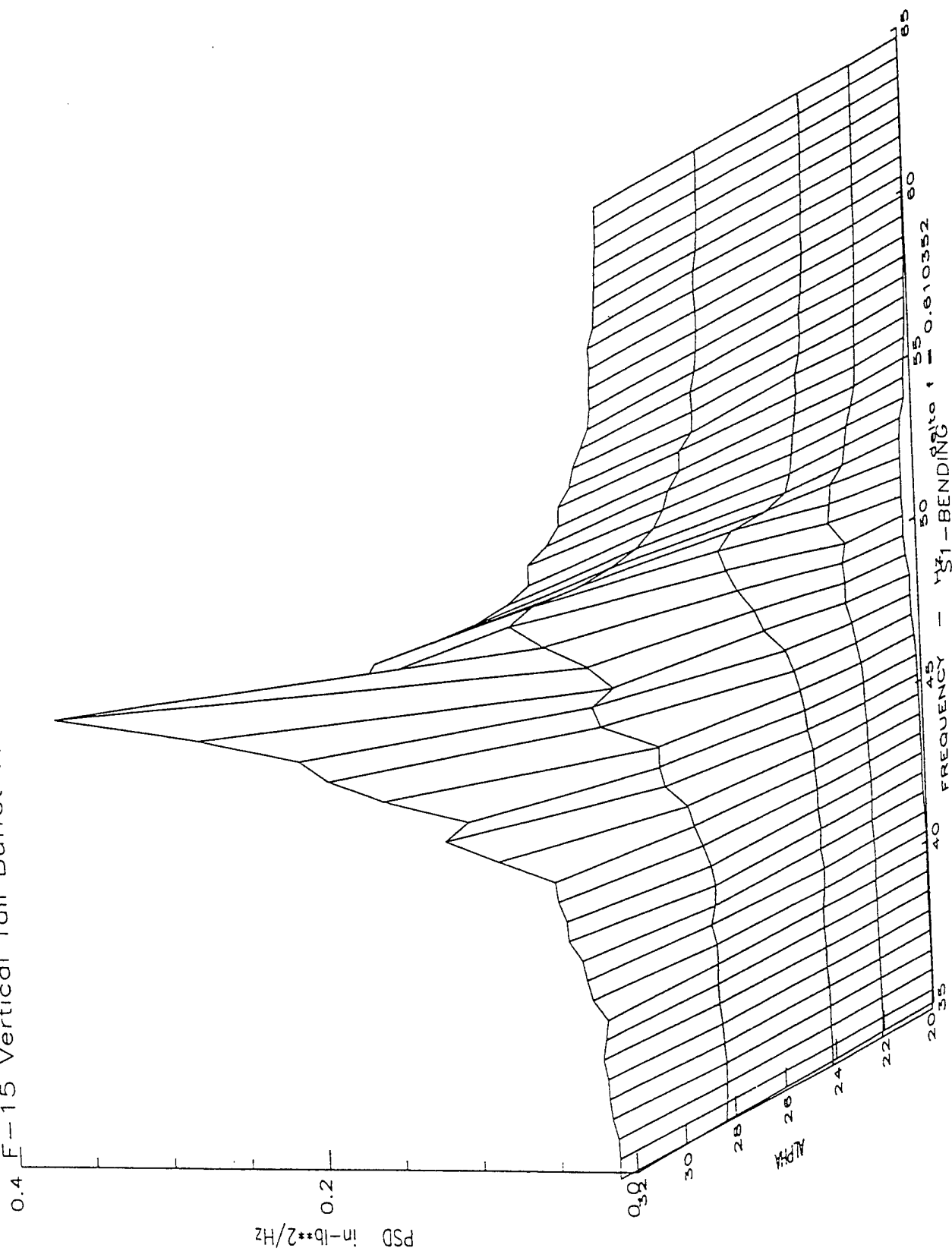
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing, Beta=0



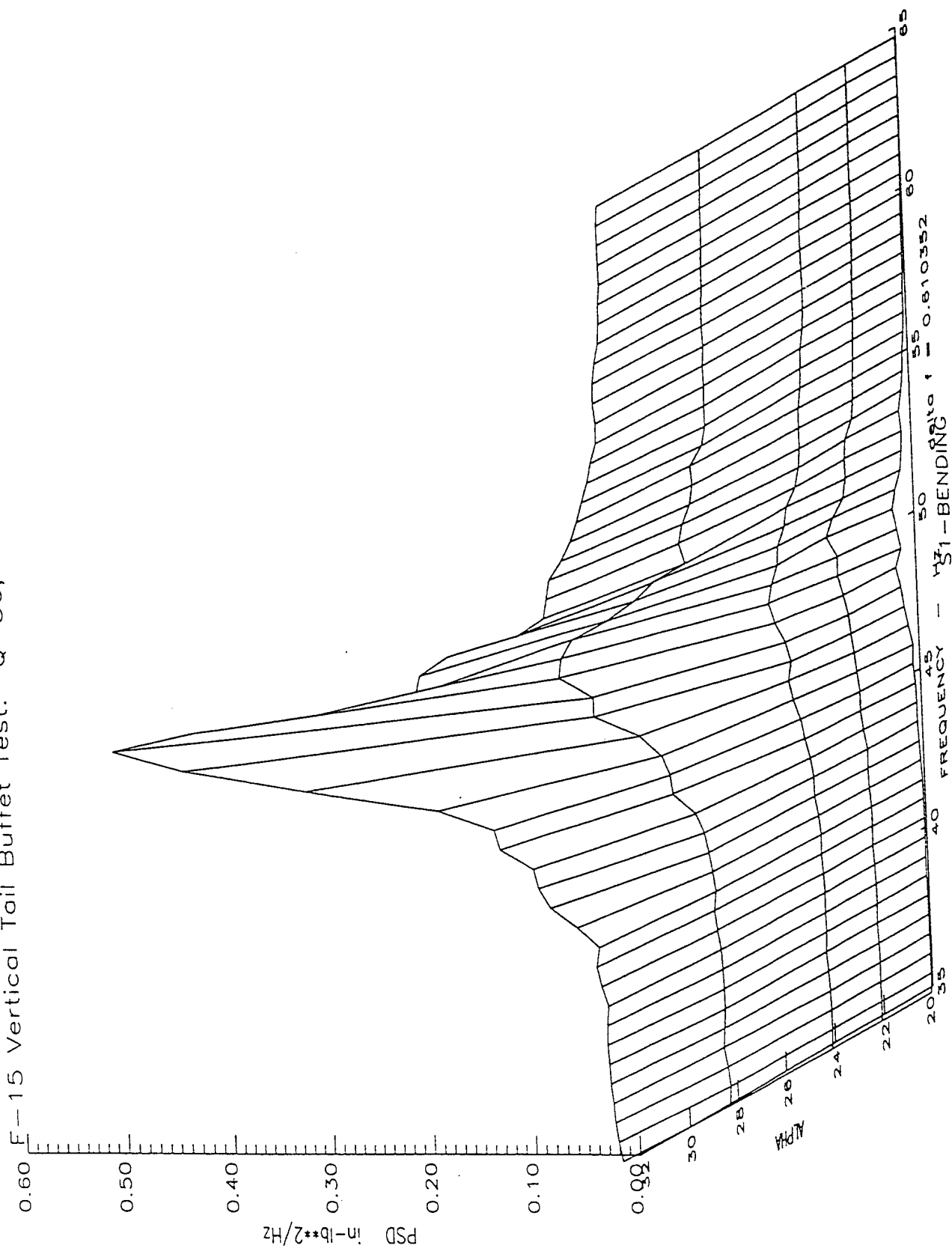
F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing, Beta=4



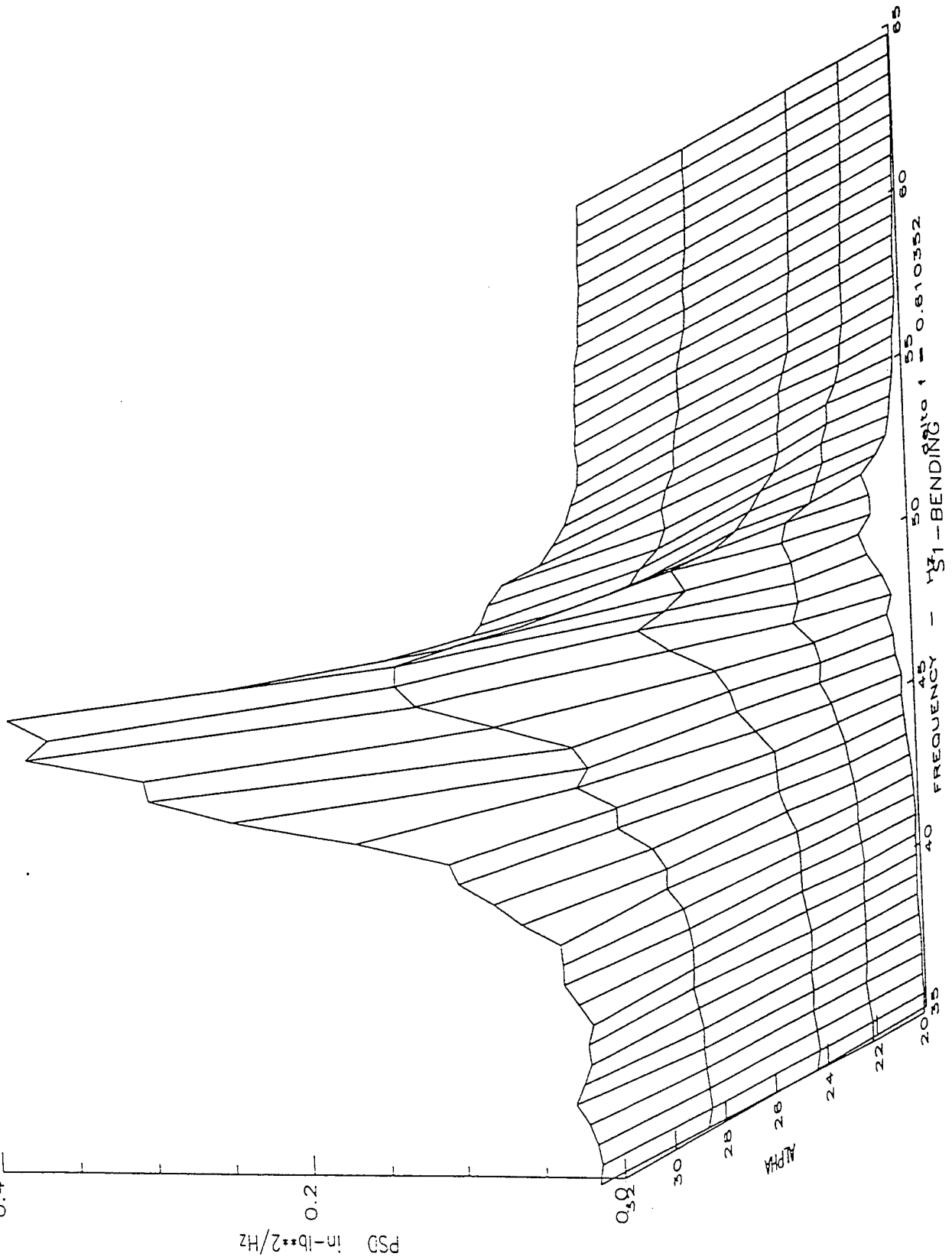
0.4 F-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $Beta=4$



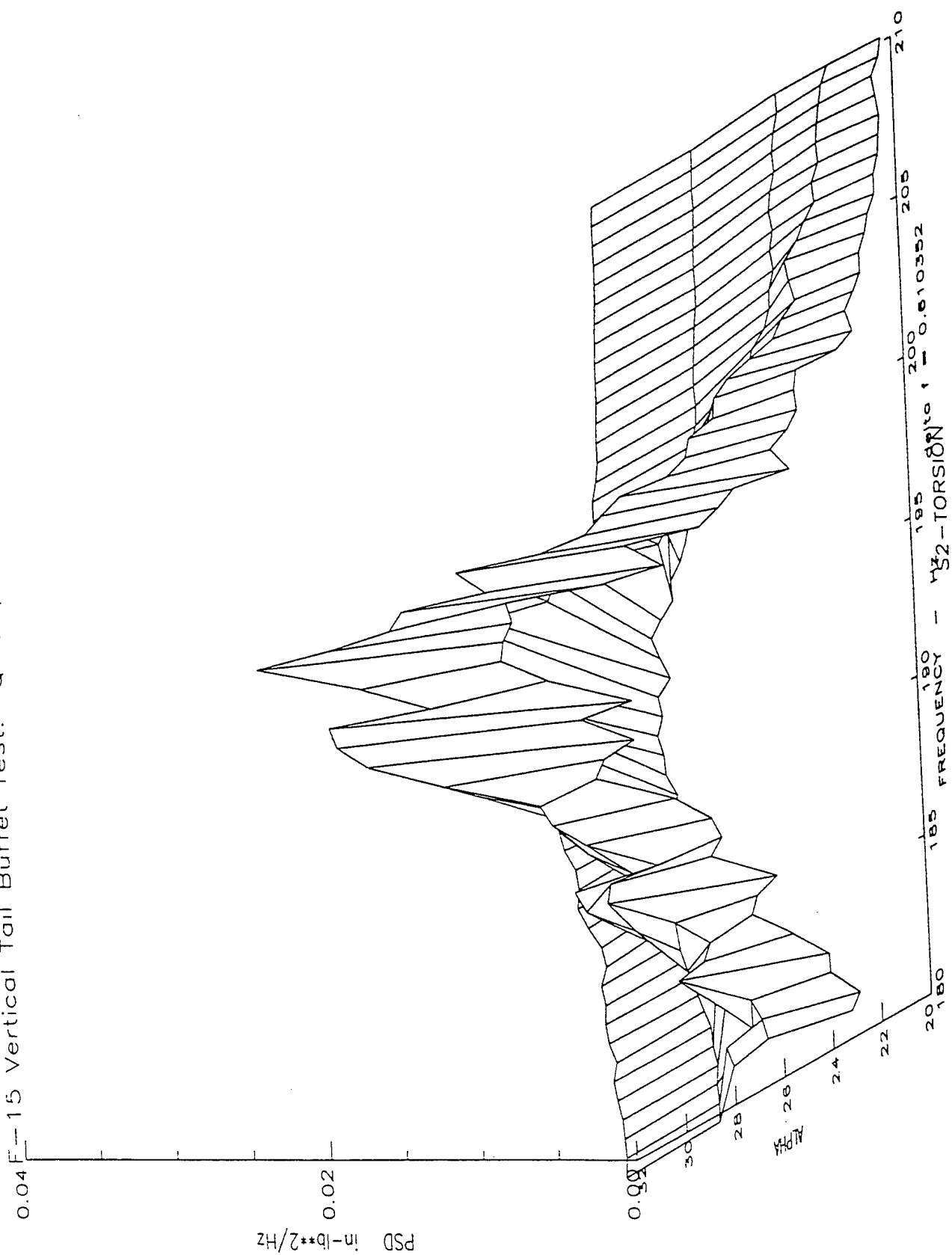
F-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $\text{Beta}=0$



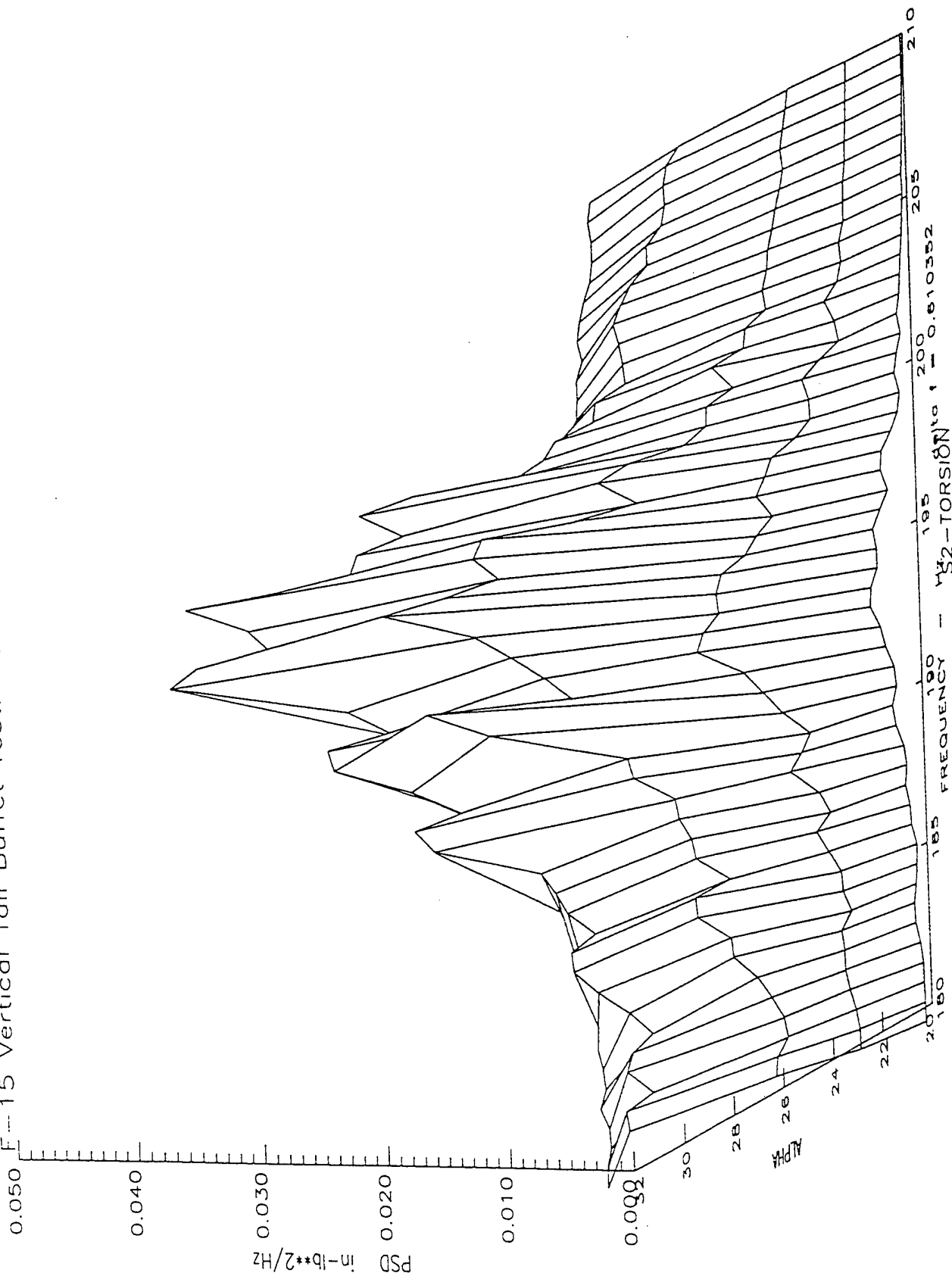
0.4 F-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $Beta=-4$



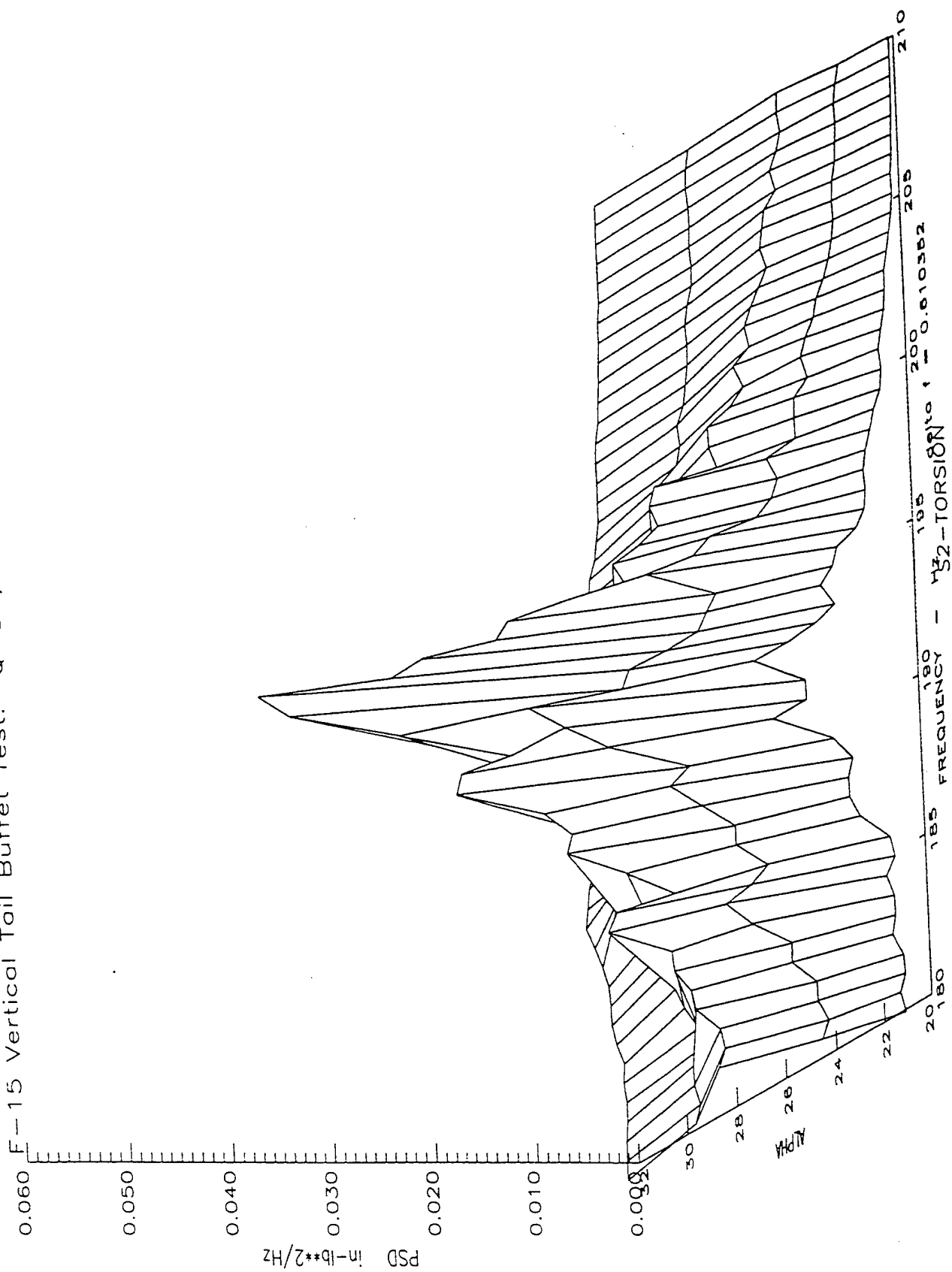
0.04 F-15 Vertical Tail Buffet Test: Q=56, Flexible, No Blowing, Beta=-4



F-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $\text{Beta}=4$



F-15 Vertical Tail Buffet Test: $Q=56$, Flexible, No Blowing, $\text{Beta}=0$



**FLEXIBLE TAIL RESPONSE
DIMENSIONAL BENDING AND TORSION**

PSD GRAPHS

Q= 56 PSF

2.1.1.1 WBP = 45,65 psi, BETA= 0, + 4, - 4, ALPHA= 0.....32 Deg

F-15 Vertical Tail Buffet Test: Q=56, Flexible Tail

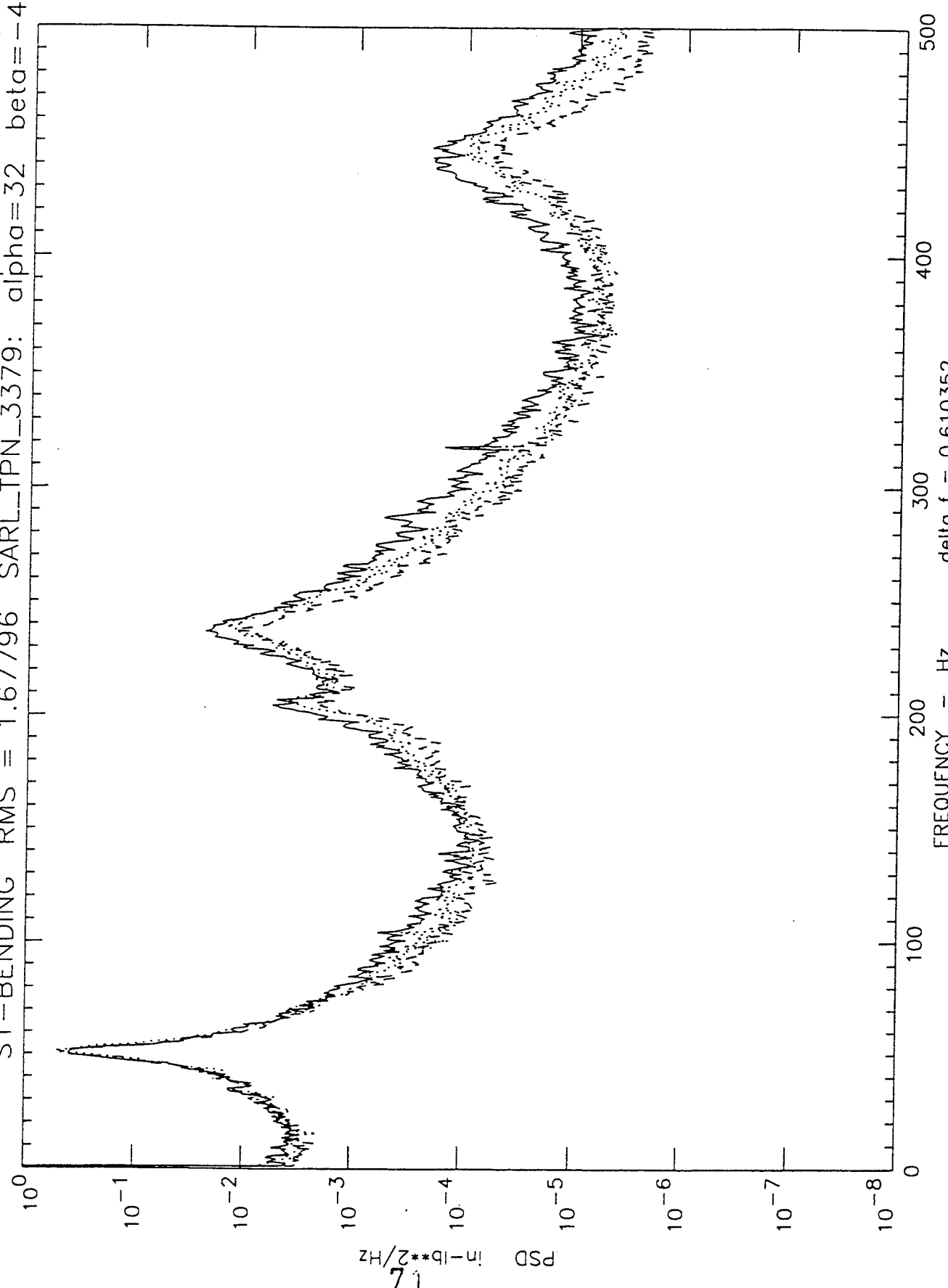
S1-BENDING RMS = 1.73695
 S1-BENDING RMS = 1.70740
 S1-BENDING RMS = 1.67796

SARL_TPN_3361:
 SARL_TPN_3343:
 SARL_TPN_3379:

alpha=32
 alpha=32
 alpha=32

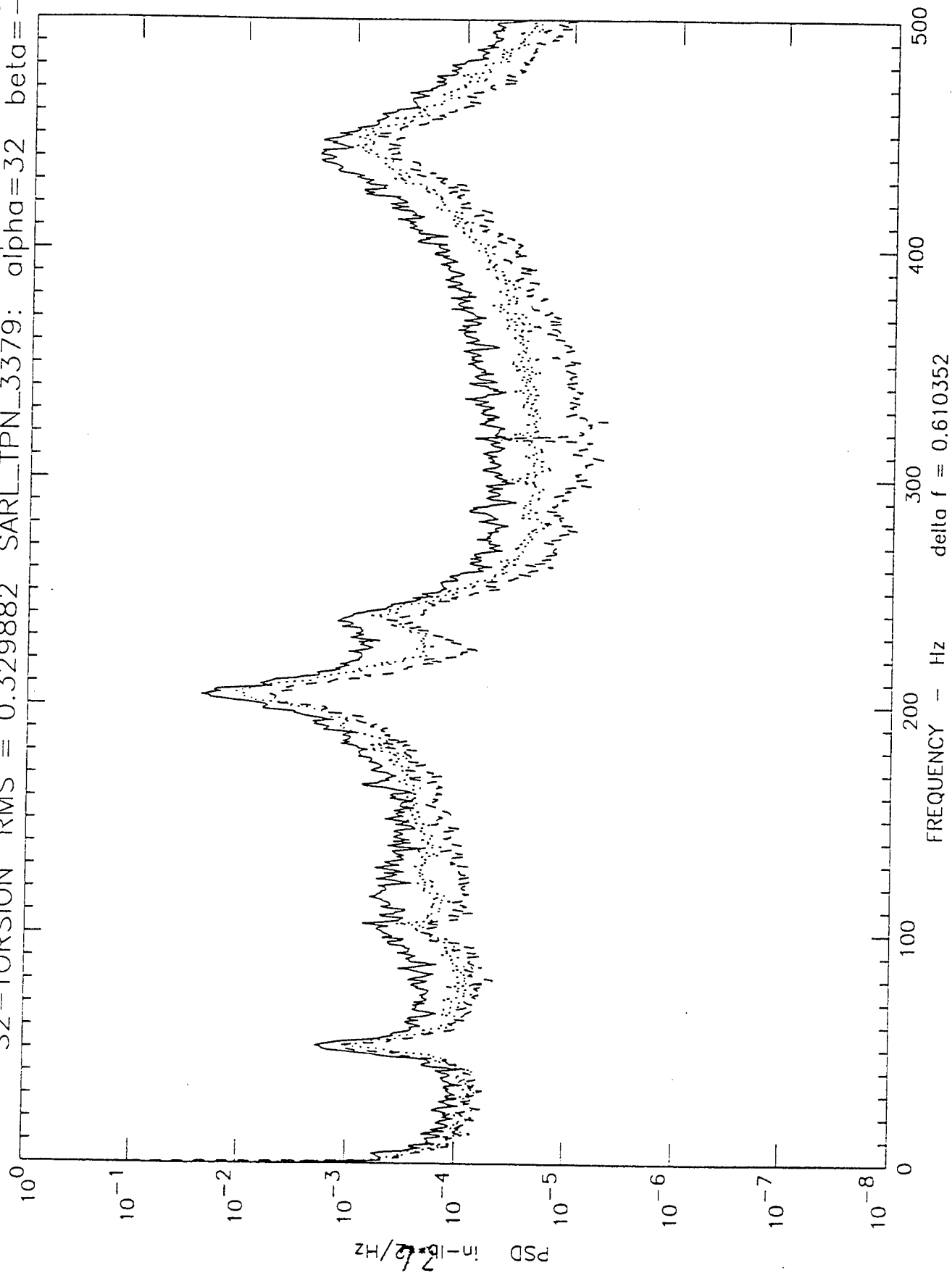
beta=4
 beta=0
 beta=-4

wbp=45
 wbp=45
 wbp=45



F-15 Vertical Tail Buffet Test: Q=56, Flexible Tc

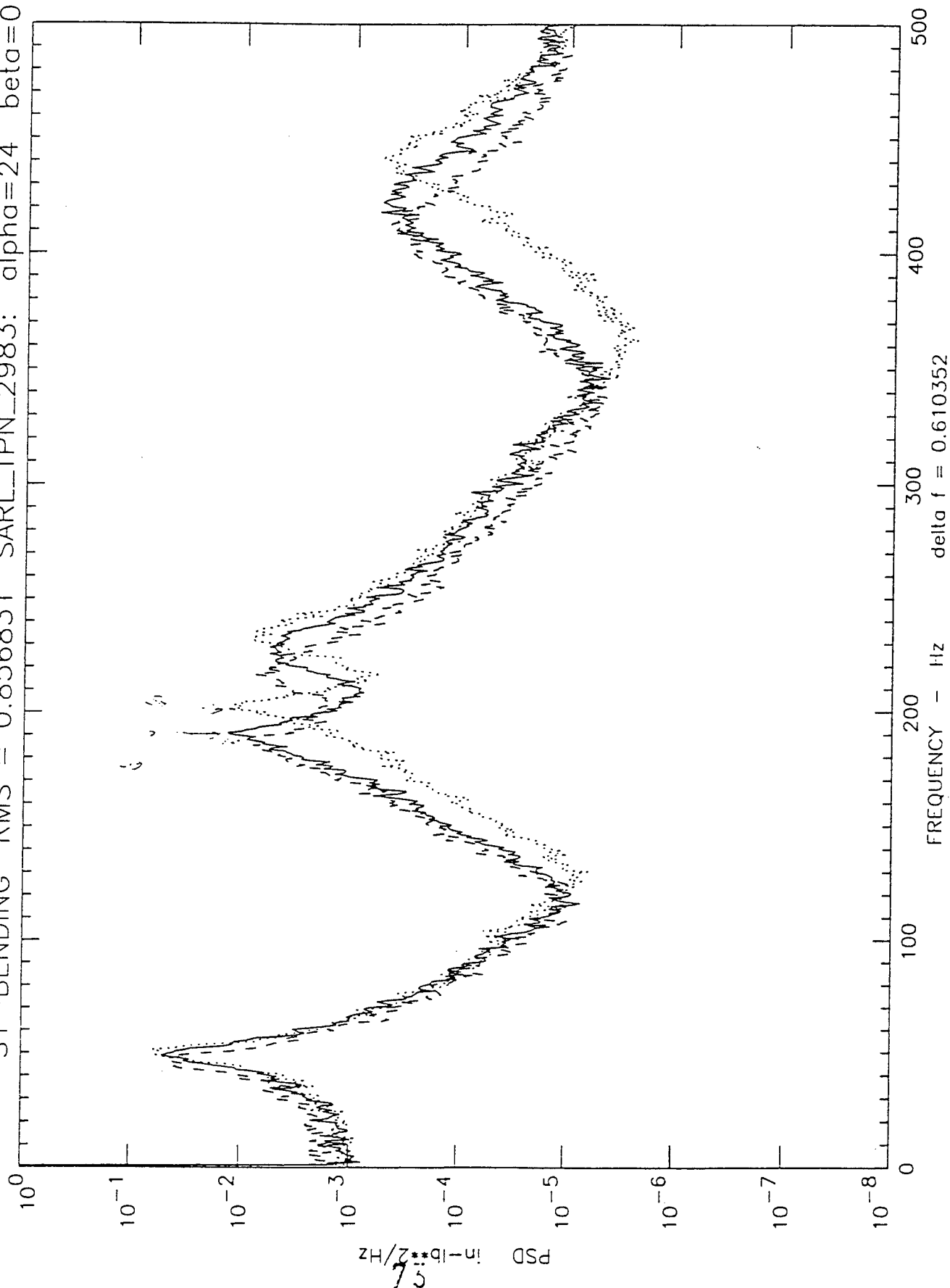
—	S2-TORSION	RMS = 0.586426	SARL_TPN_3361:	alpha=32	beta=4	wbp=45
.....	S2-TORSION	RMS = 0.425601	SARL_TPN_3343:	alpha=32	beta=0	wbp=45
----	S2-TORSION	RMS = 0.329882	SARL_TPN_3379:	alpha=32	beta=-4	wbp=45



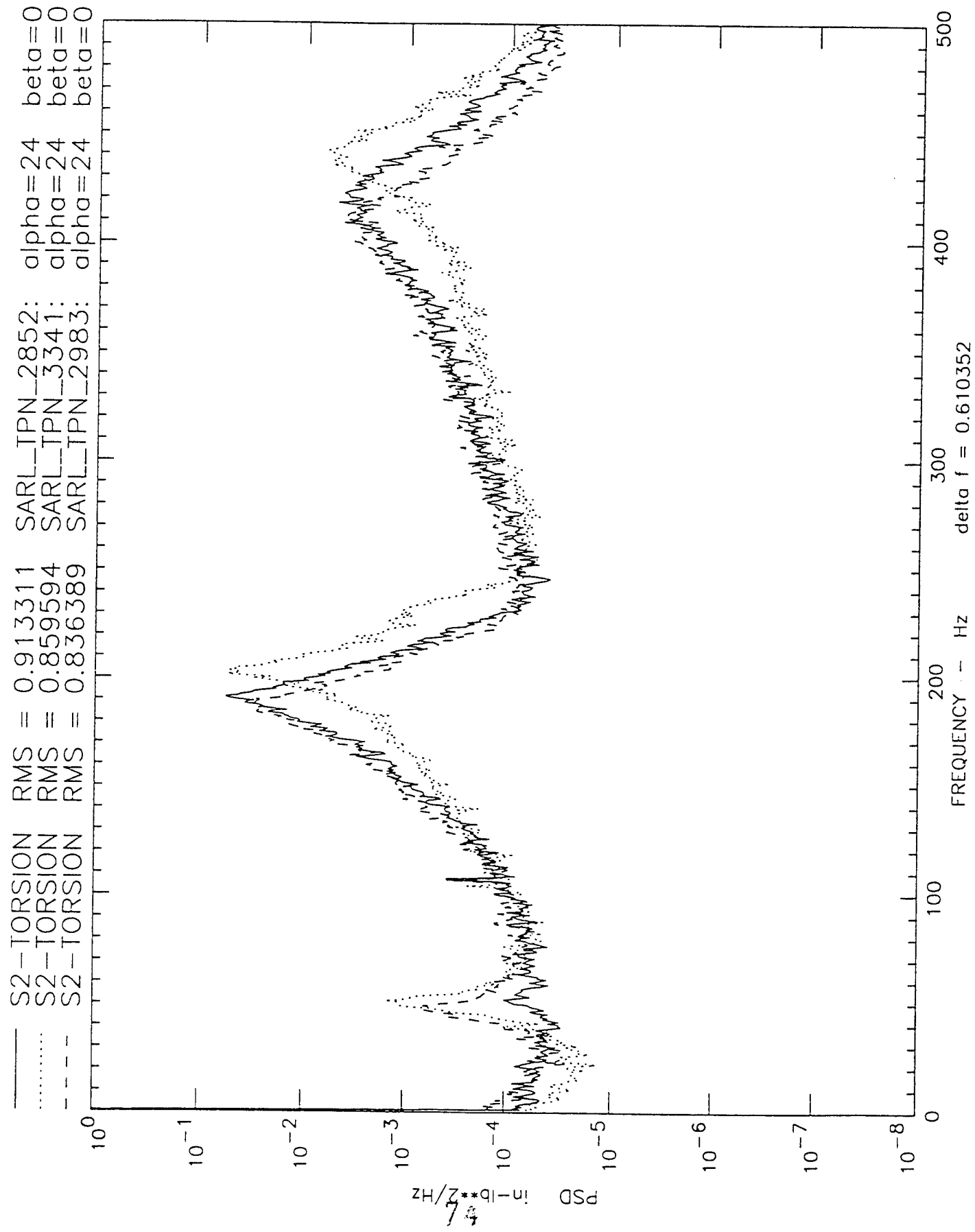
F-15 Vertical Tail Buffet Test: Q=56, Flexible Tail

—	S1-BENDING	RMS = 0.857335	SARL_TPN_2852:	alpha=24	beta=0
.....	S1-BENDING	RMS = 0.871690	SARL_TPN_3341:	alpha=24	beta=0
- - - -	S1-BENDING	RMS = 0.856831	SARL_TPN_2983:	alpha=24	beta=0

bp=0
wbp=45
wbp=65



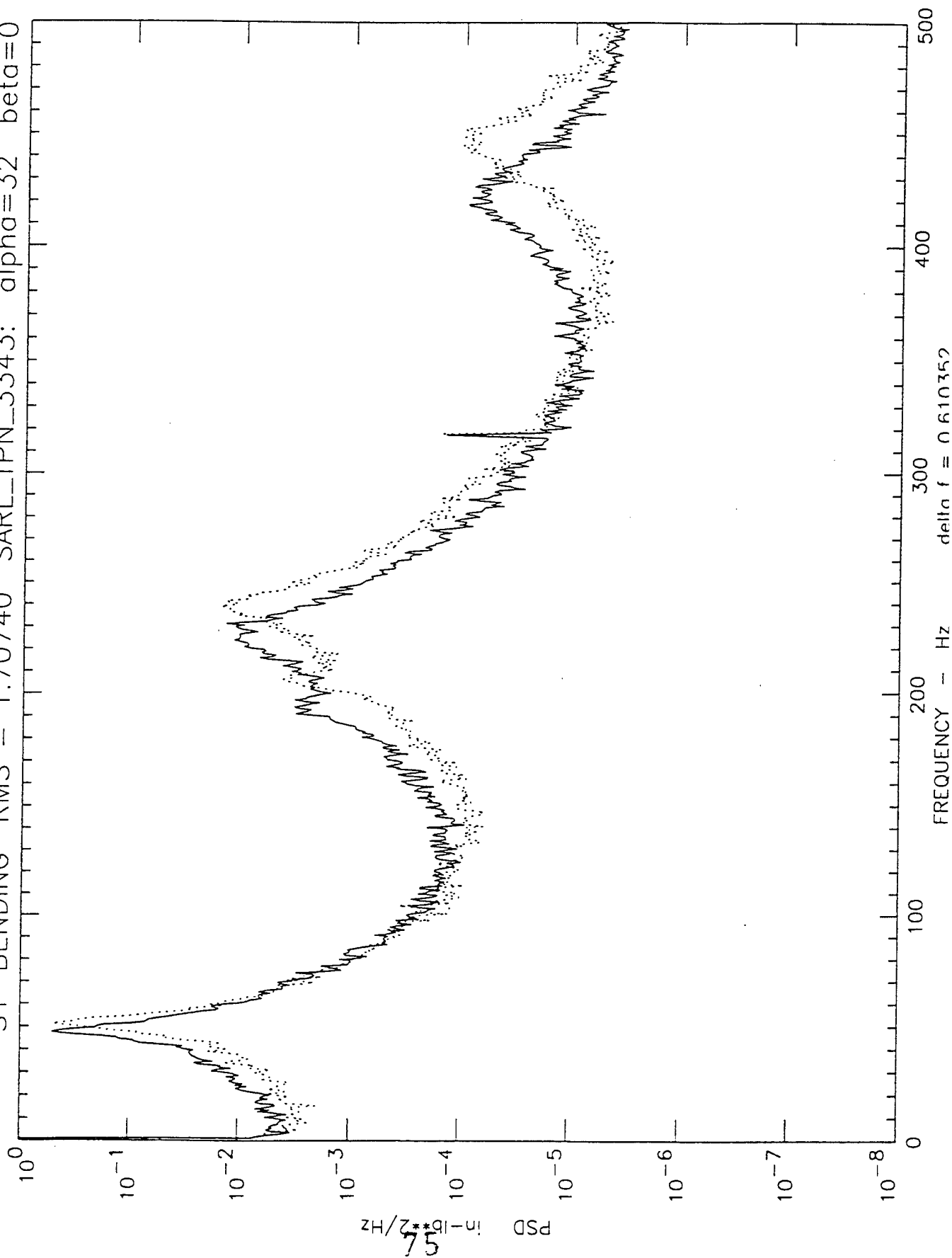
F-15 Vertical Tail Buffet Test: Q=56, Flexible iail



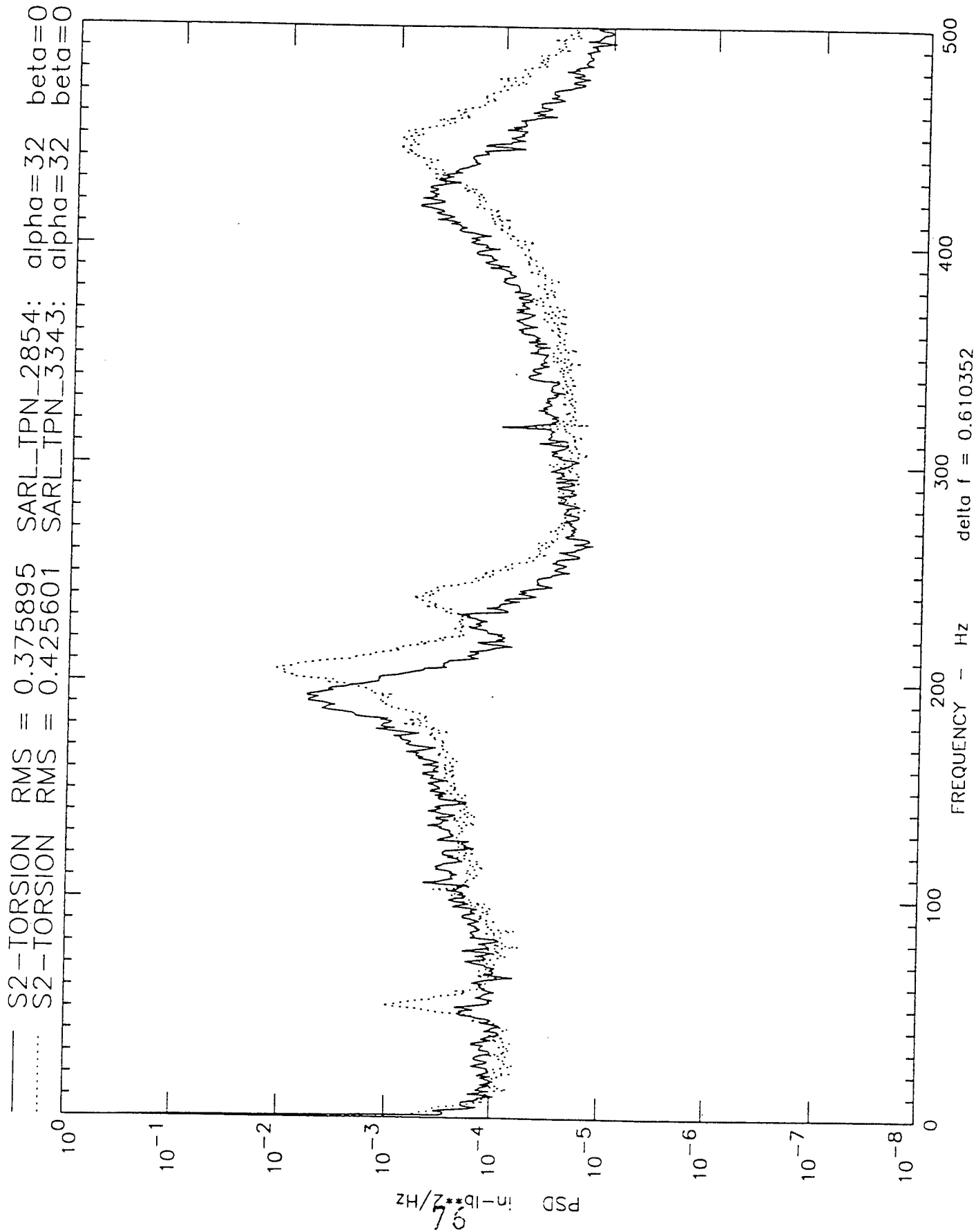
F-15 Vertical Tail Buffet Test: Q=56, Flexible Tail

S1-BENDING RMS = 1.78916 SARL_IPN_2854: alpha=32 beta=0
 S1-BENDING RMS = 1.70740 SARL_IPN_3343: alpha=32 beta=0

bp=0
 wbp=45



F-15 Vertical Tail Buffet Test: Q=56, Flexible Tail

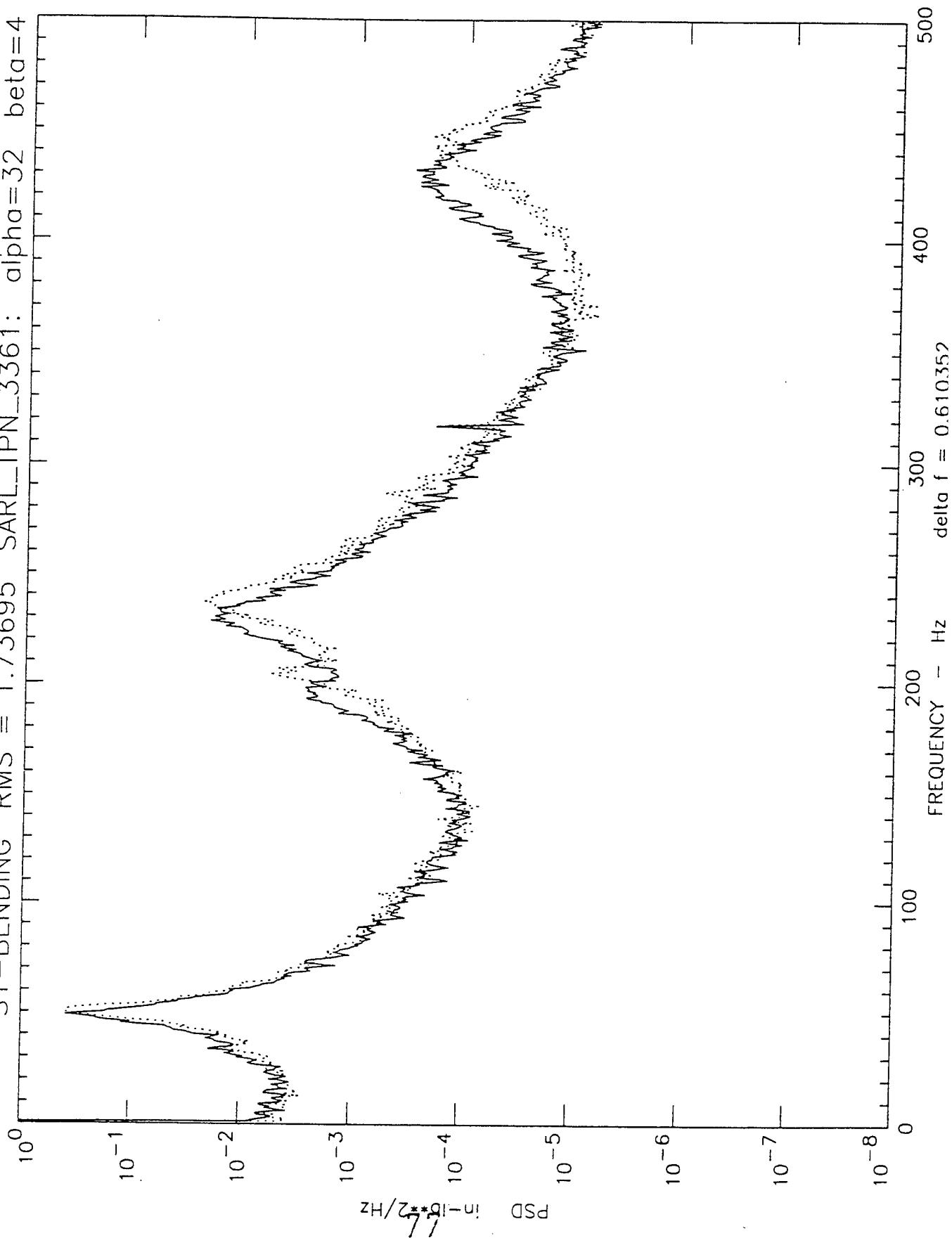


bp=0
 wbp=45

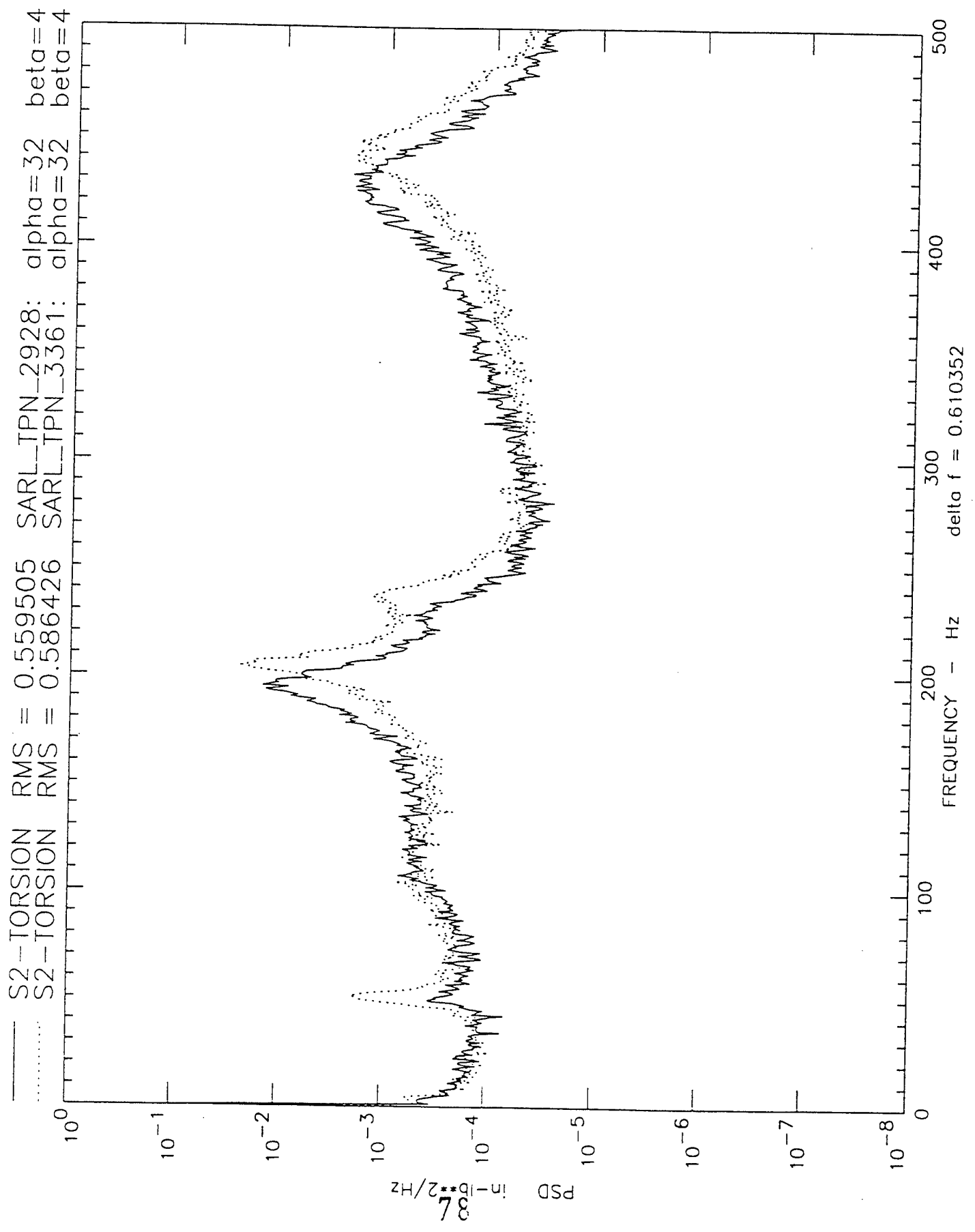
F-15 Vertical Tail Buffet Test: Q=56, Flexible Tail

S1-BENDING RMS = 1.61494 SARL_TPN_2928: alpha=32 beta=4
 S1-BENDING RMS = 1.73695 SARL_TPN_3361: alpha=32 beta=4

bp=0
 wbp=45

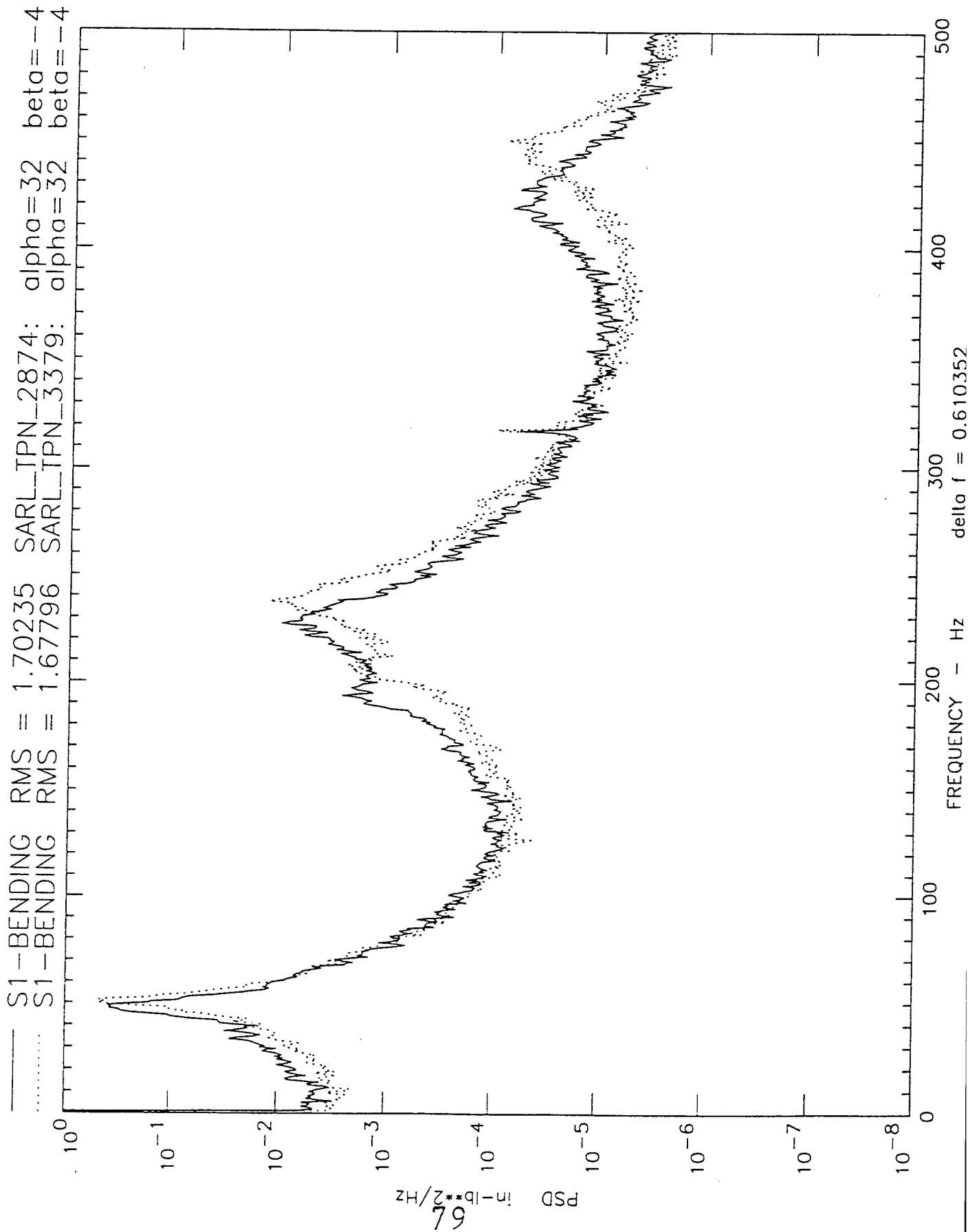


F-15 Vertical Tail Buffet Test: Q=56, Flexible Tail



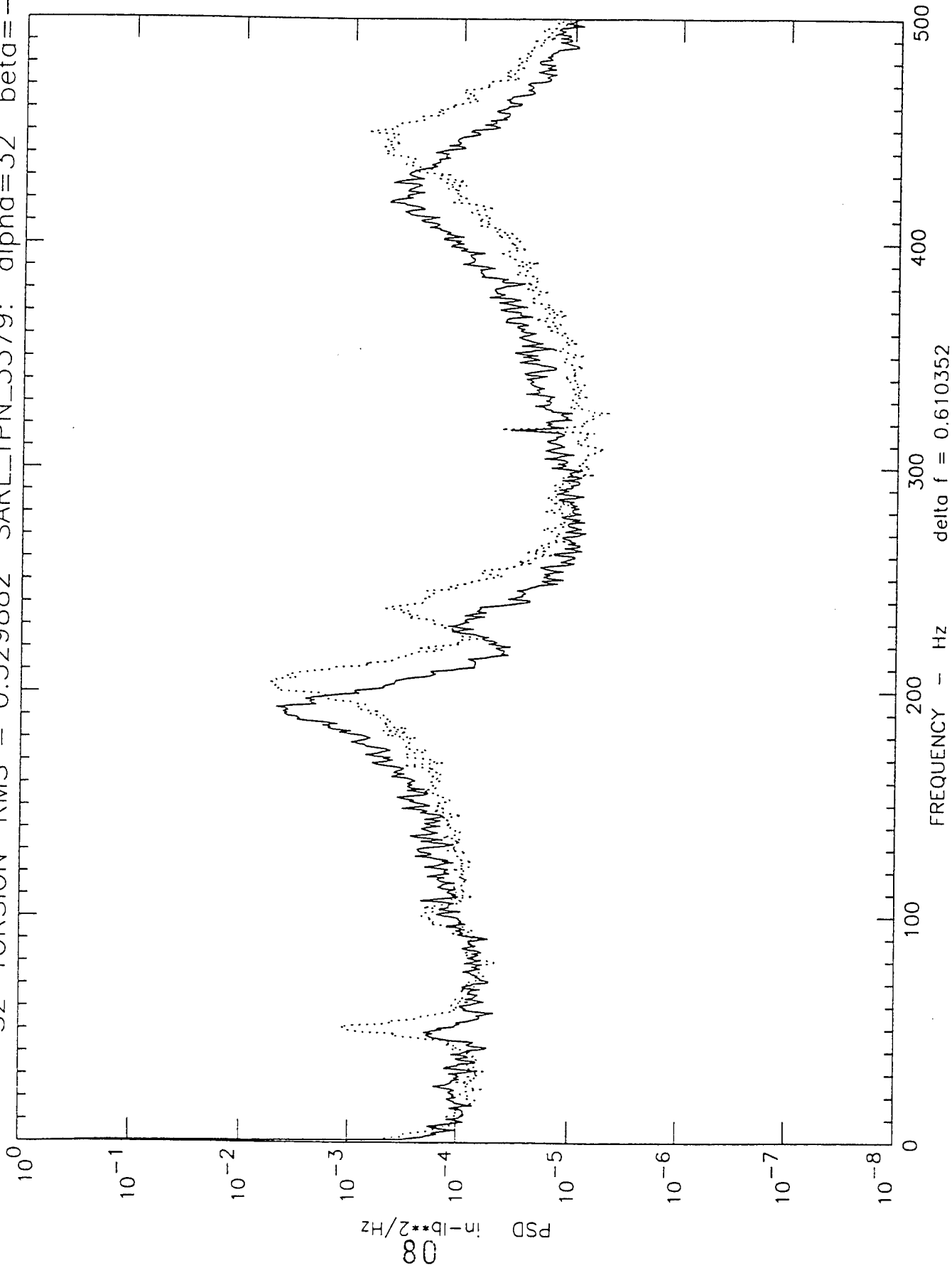
bp=0
wbp=45

F-15 Vertical Tail Buffet Test: Q=56, Flexible Tail

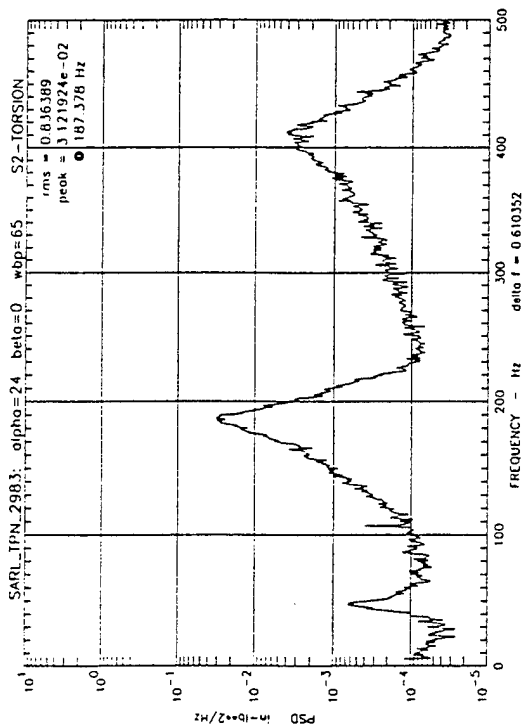


F-15 Vertical Tail Buffet Test: Q=56, Flexible Tail

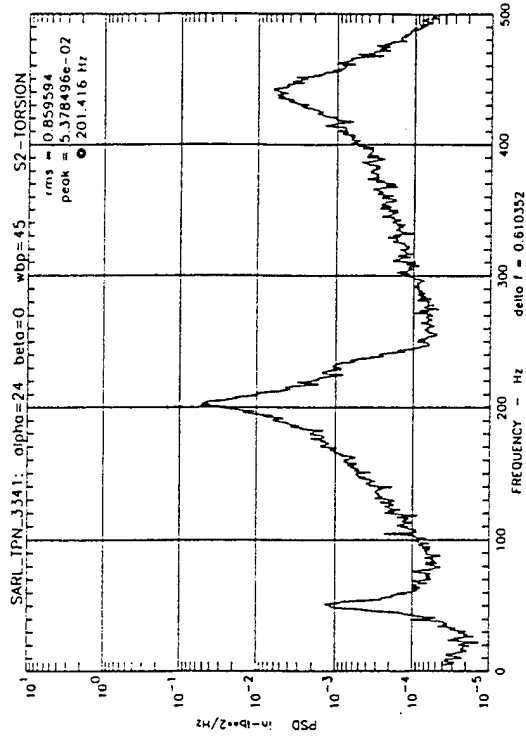
— S2-TORSION RMS = 0.311466 SARL_TPN_2874: alpha=32 beta=-4 bp=0
 S2-TORSION RMS = 0.329882 SARL_TPN_3379: alpha=32 beta=-4 wbp=4:



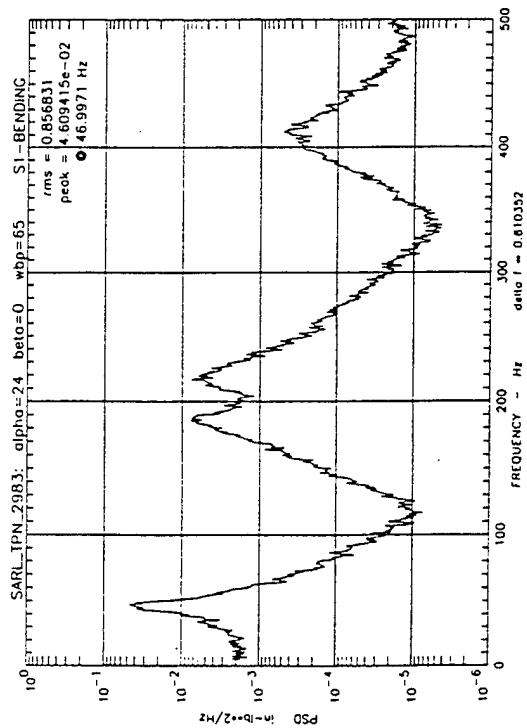
F-15 Vertical Tail Buffet Test: Q=56, Flexible Tail



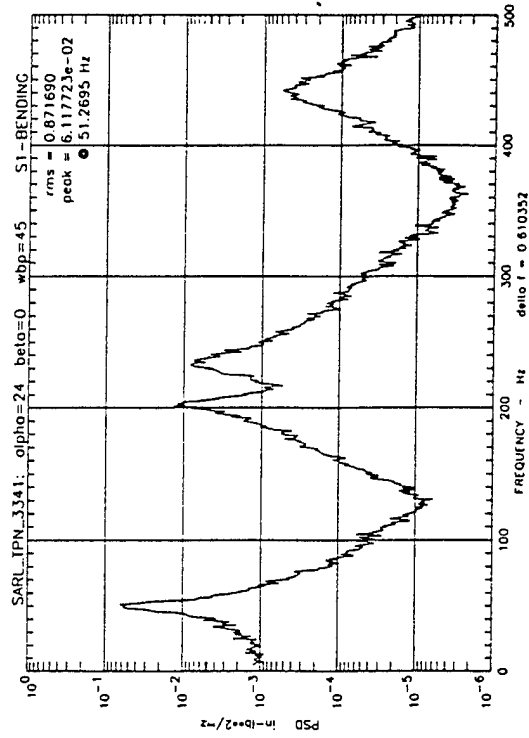
F-15 Vertical Tail Buffet Test: Q=56, Flexible Tail



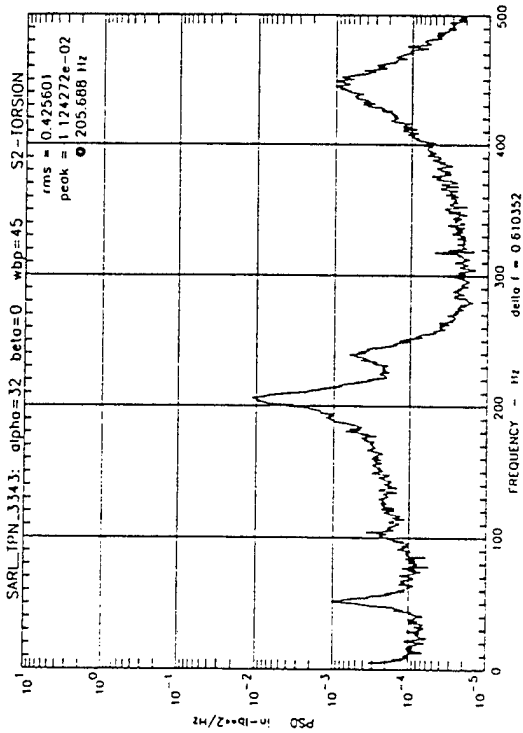
F-15 Vertical Tail Buffet Test: Q=56, Flexible Tail



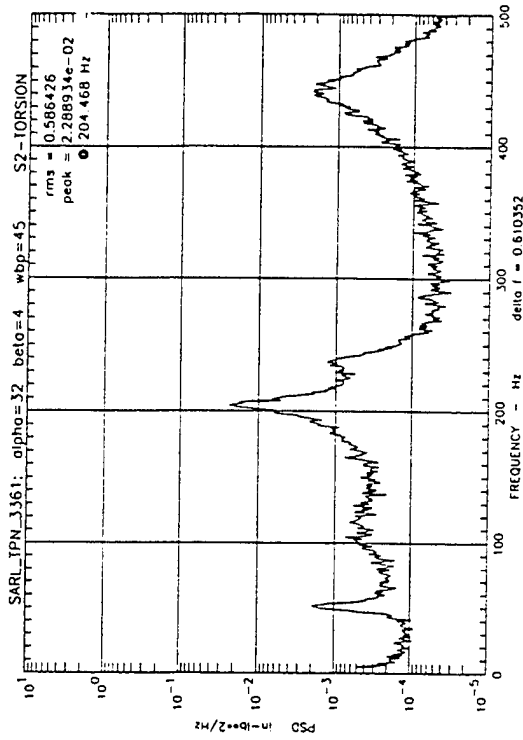
F-15 Vertical Tail Buffet Test: Q=56, Flexible Tail



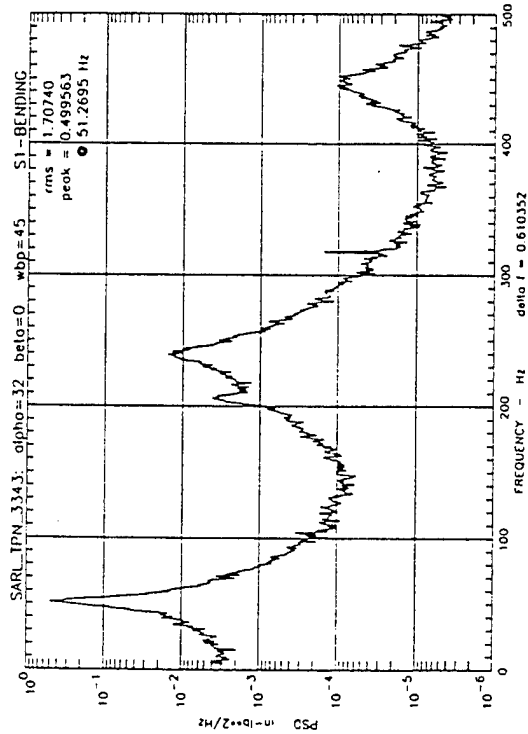
F-15 Vertical Tail Buffet Test: Q=56, Flexible Tail



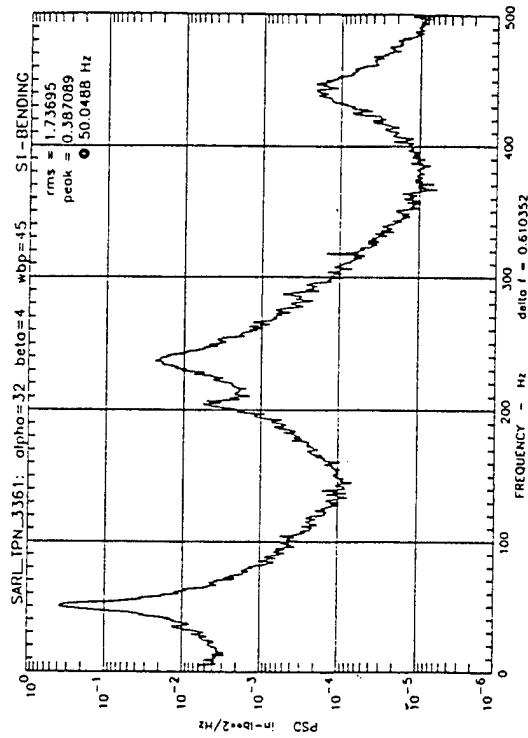
F-15 Vertical Tail Buffet Test: Q=56, Flexible Tail

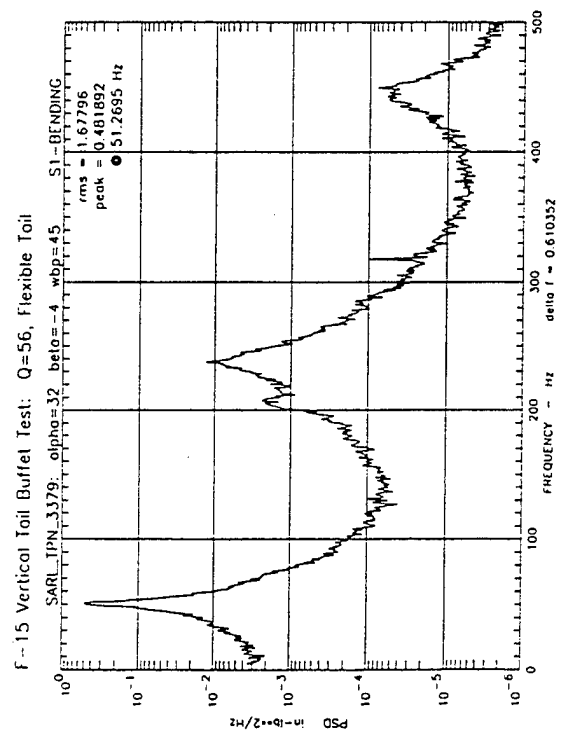
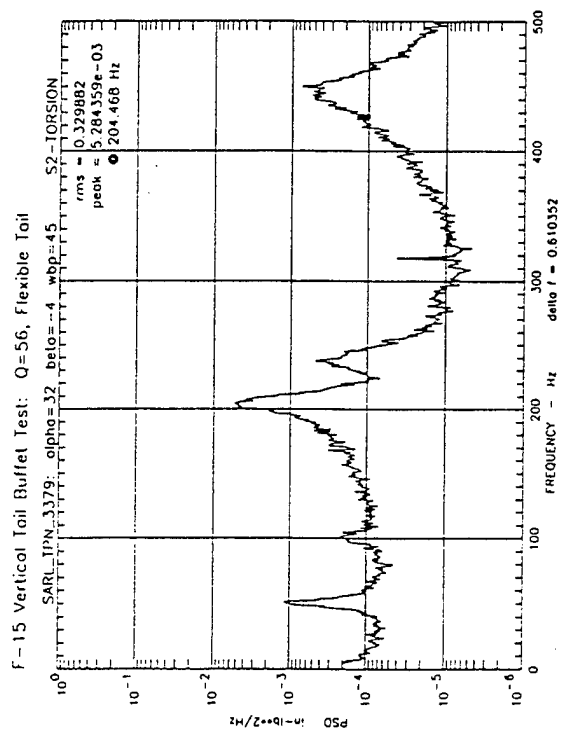


F-15 Vertical Tail Buffet Test: Q=56, Flexible Tail

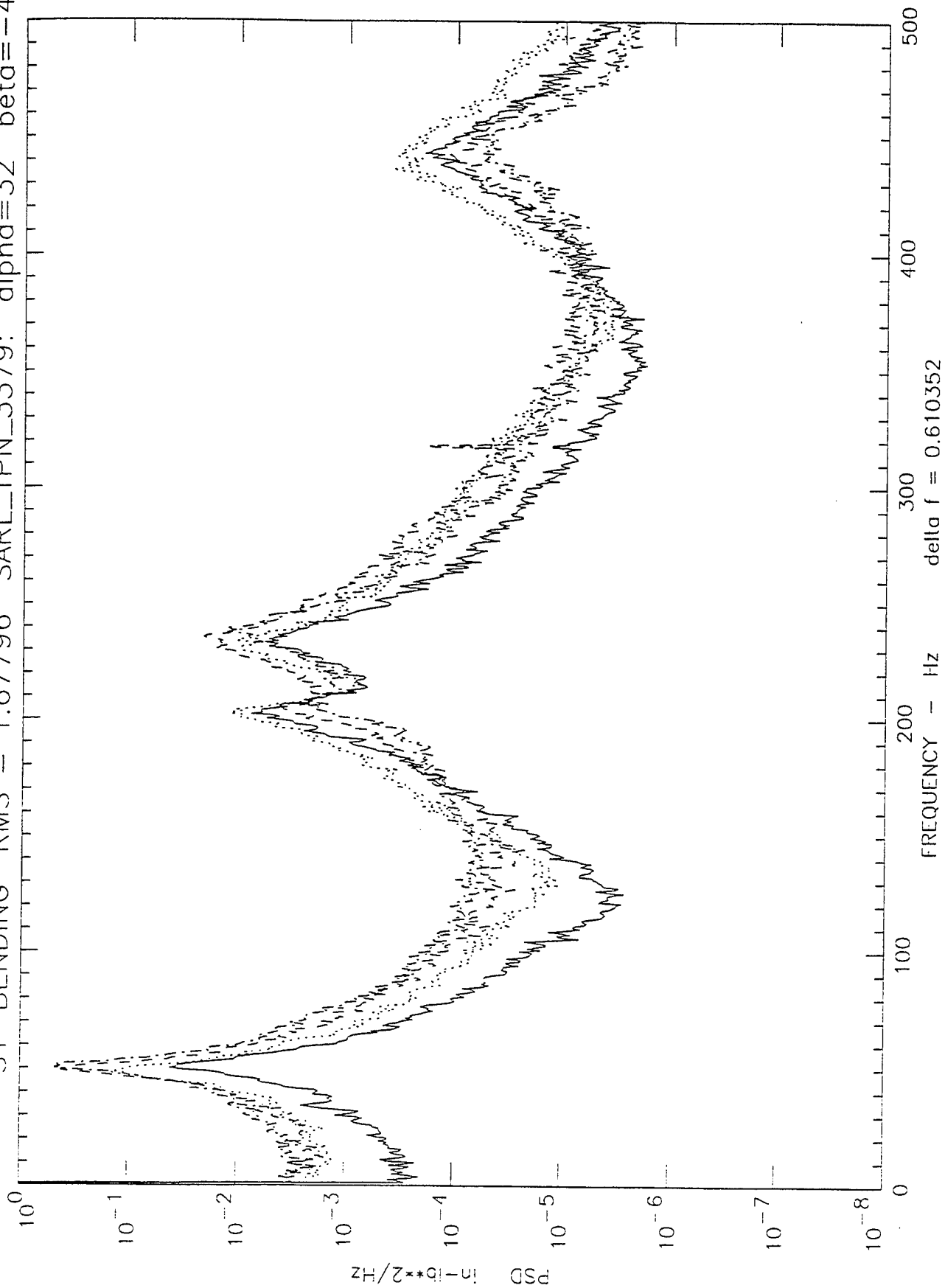


F-15 Vertical Tail Buffet Test: Q=56, Flexible Tail





—	S1-BENDING	RMS = 0.655035	SARL_TPN_3375:	alpha=20	beta=-4	wbp=4
...	S1-BENDING	RMS = 1.13096	SARL_TPN_3377:	alpha=24	beta=-4	wbp=45
- - -	S1-BENDING	RMS = 1.59007	SARL_TPN_3378:	alpha=28	beta=-4	wbp=45
- - -	S1-BENDING	RMS = 1.67796	SARL_TPN_3379:	alpha=32	beta=-4	wbp=45



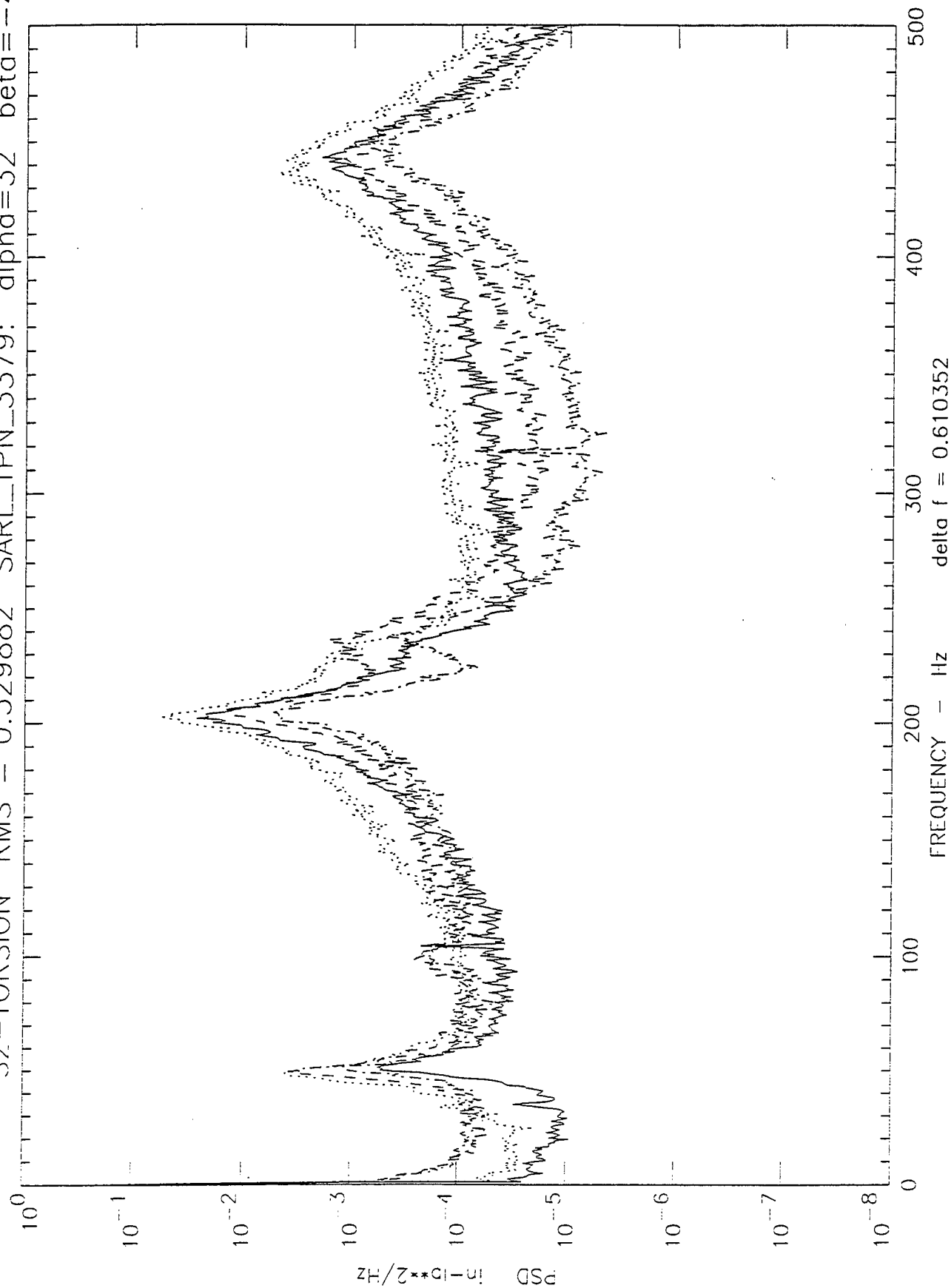
1 - 15 V tical Tail Buffet Test: Q=56

S2-TORSION RMS = 0.566799
 S2-TORSION RMS = 0.858179
 S2-TORSION RMS = 0.493807
 S2-TORSION RMS = 0.329882

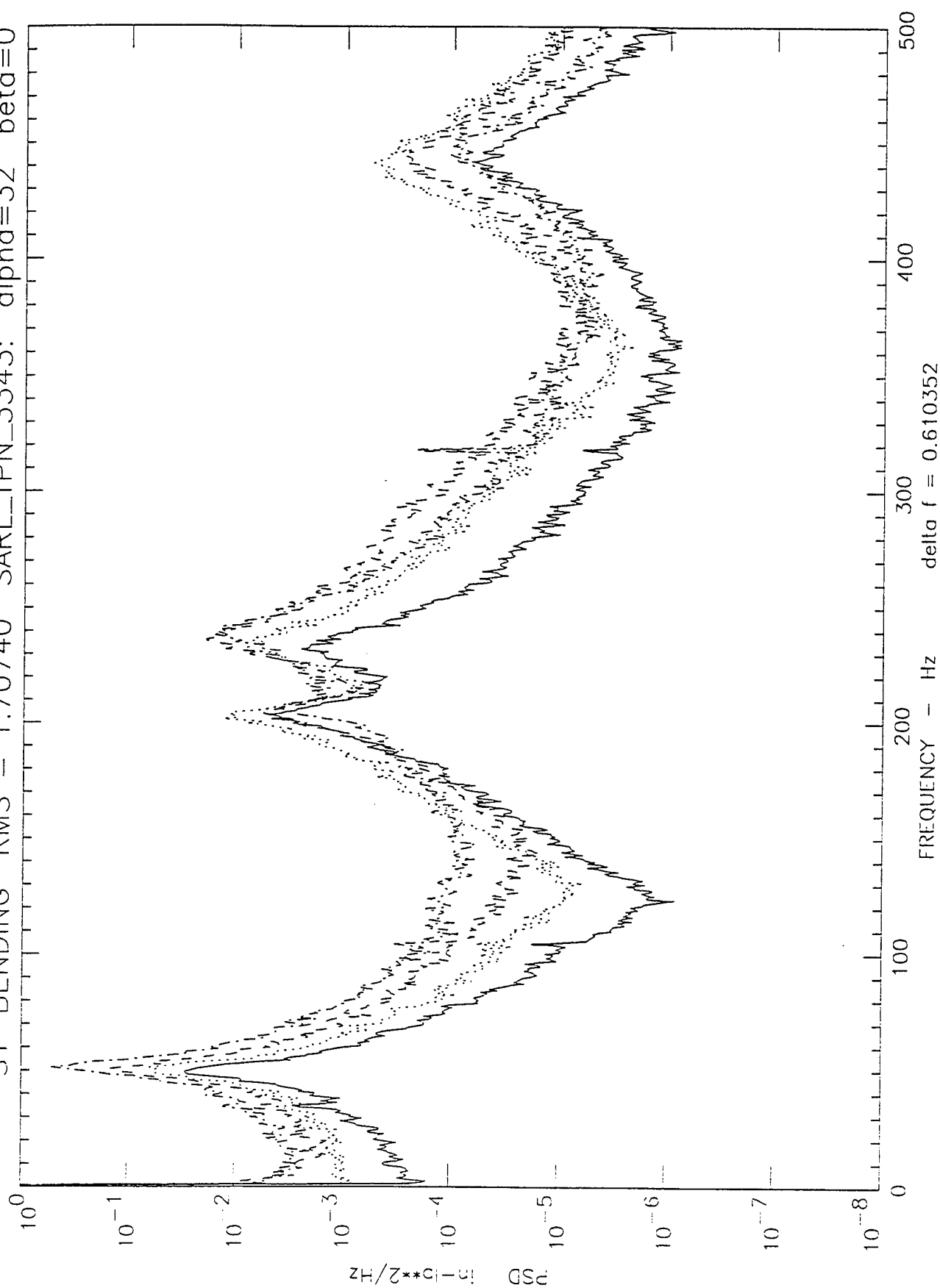
SARL_TPN_3375: alpha=20
 SARL_TPN_3377: alpha=24
 SARL_TPN_3378: alpha=28
 SARL_TPN_3379: alpha=32

beta=-4
 beta=-4
 beta=-4
 beta=-4

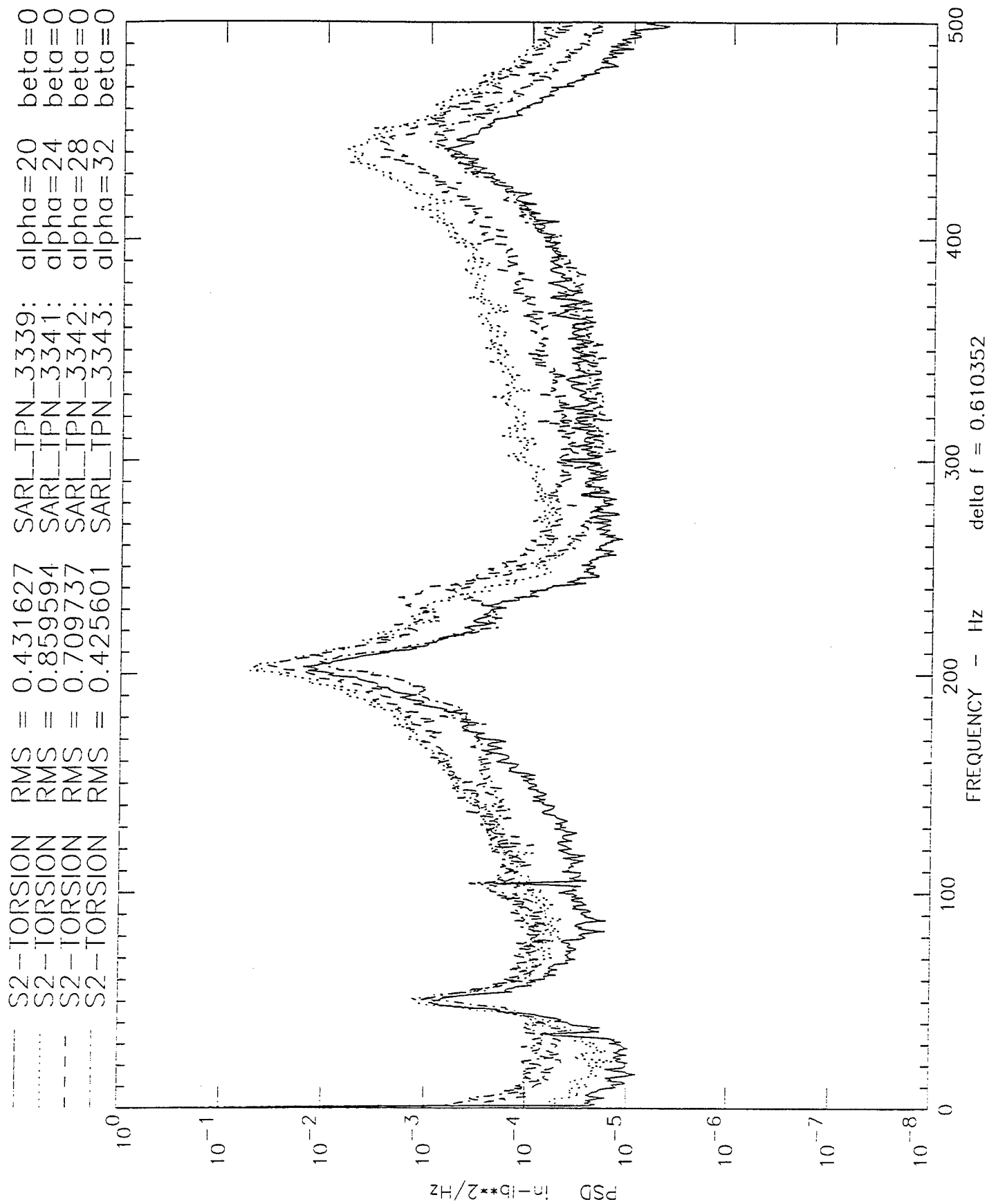
wp=4
 wp=4
 wp=4
 wp=4



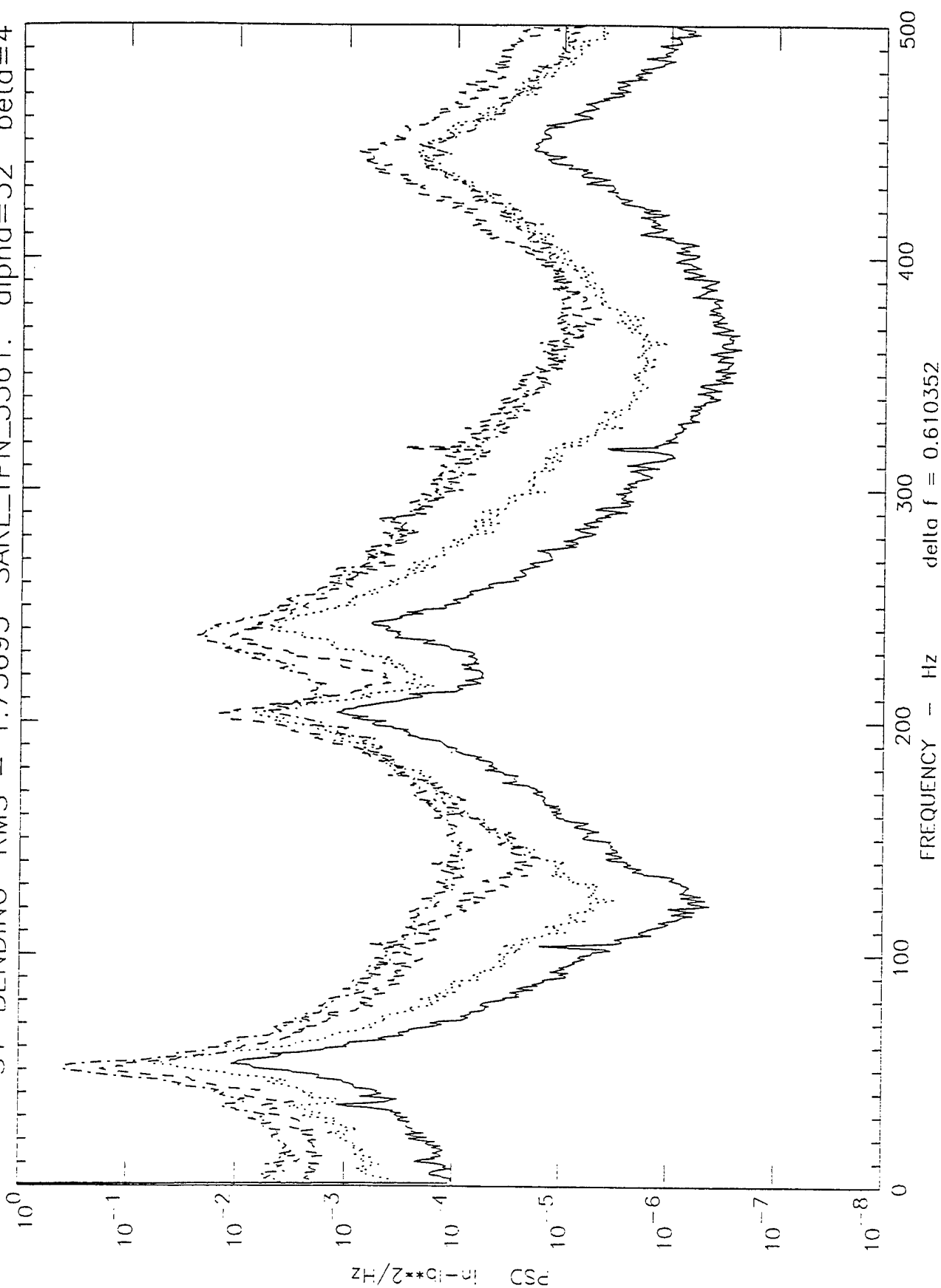
---	S1-BENDING	RMS = 0.549562	SARL_TPN_3339:	alpha=20	beta=0	wbp=45
---	S1-BENDING	RMS = 0.871690	SARL_TPN_3341:	alpha=24	beta=0	wbp=45
---	S1-BENDING	RMS = 1.15022	SARL_TPN_3342:	alpha=28	beta=0	wbp=45
---	S1-BENDING	RMS = 1.70740	SARL_TPN_3343:	alpha=32	beta=0	wbp=45



F-15 critical tail Buffet test: Q=56



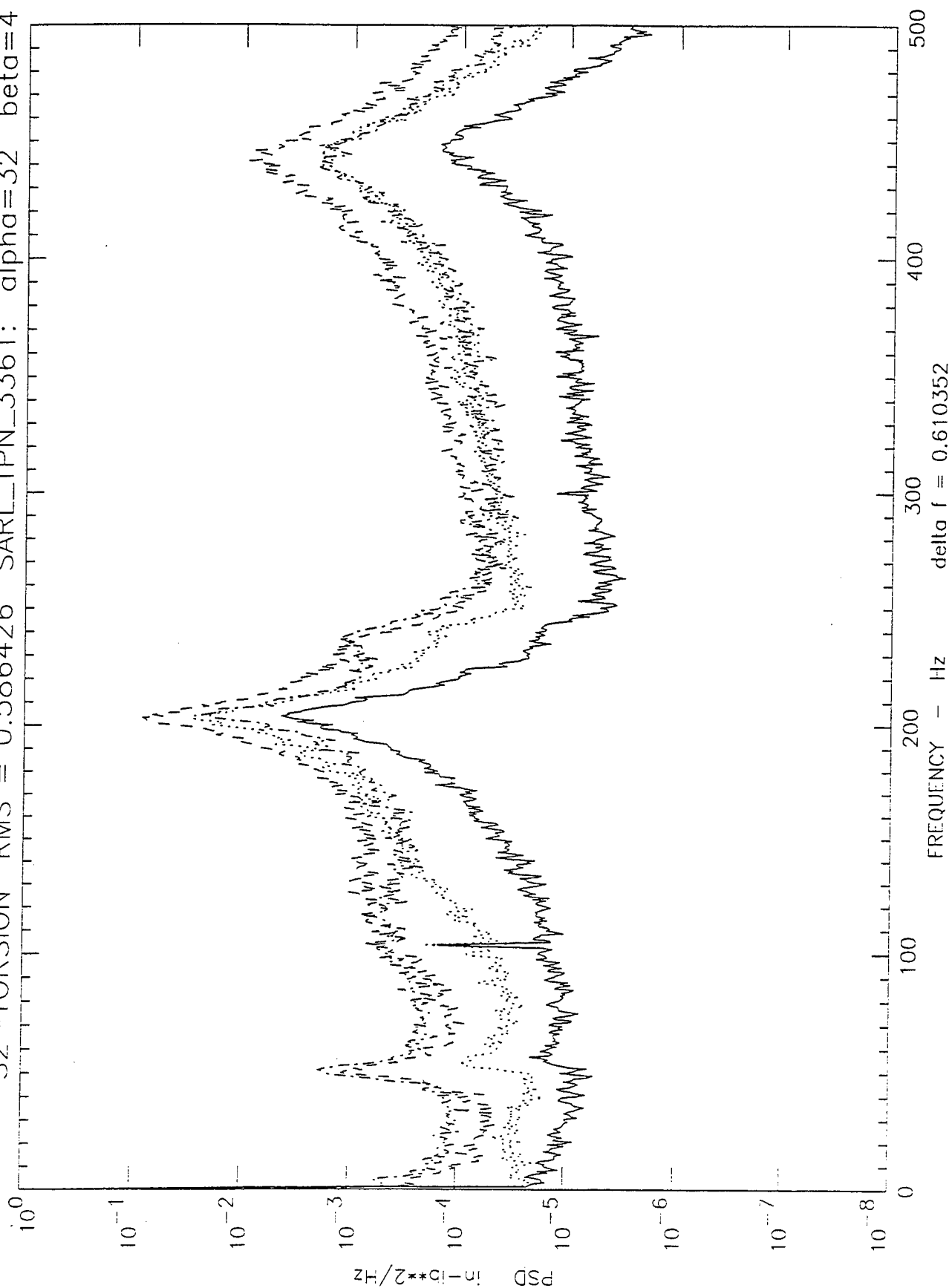
---	S1-BENDING	RMS = 0.324086	SARL_TPN_3357:	alpha=20	beta=4
---	S1-BENDING	RMS = 0.722612	SARL_TPN_3359:	alpha=24	beta=4
---	S1-BENDING	RMS = 1.20685	SARL_TPN_3360:	alpha=28	beta=4
---	S1-BENDING	RMS = 1.73695	SARL_TPN_3361:	alpha=32	beta=4



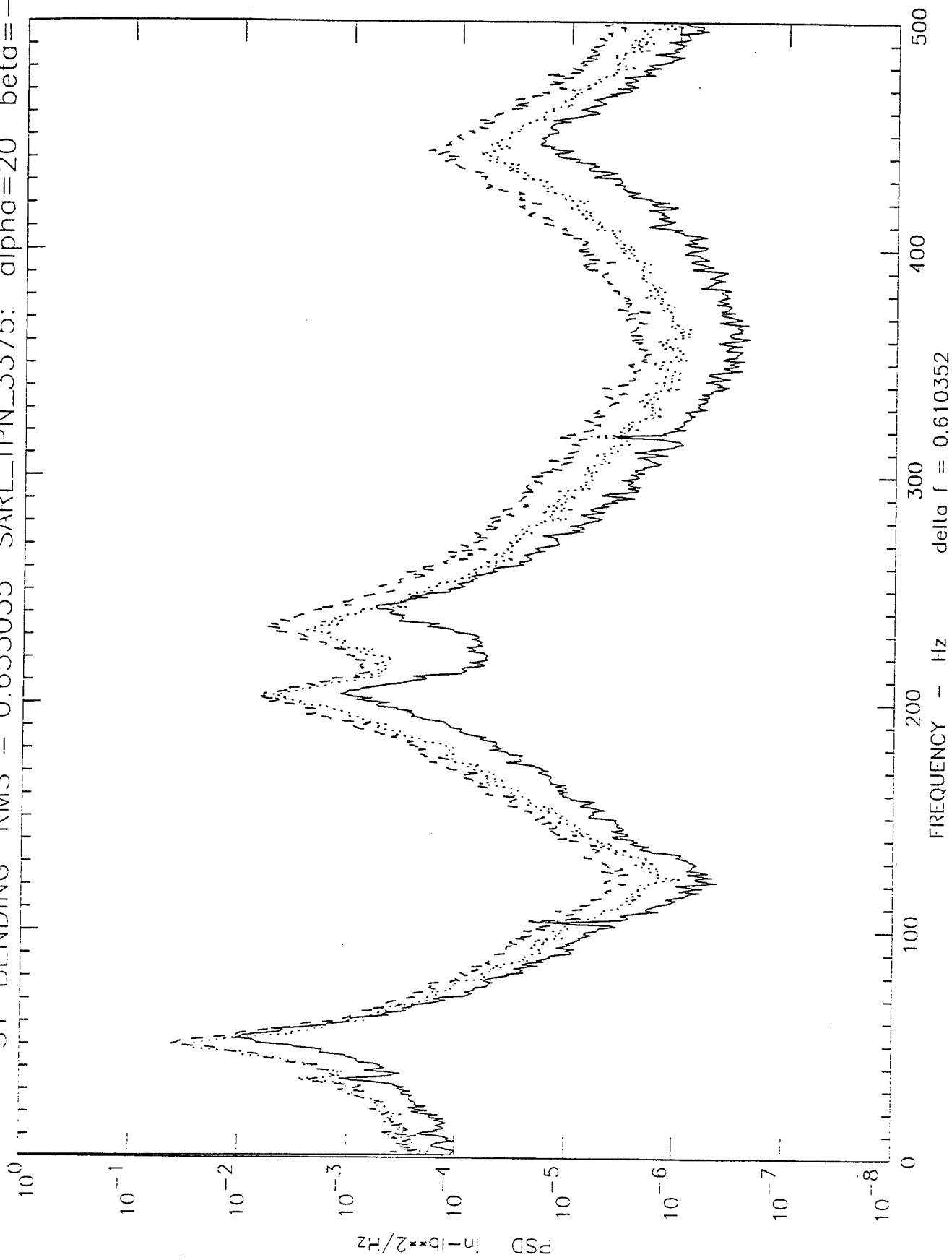
wbp=45
wbp=45
wbp=45
wbp=45

Physical Tail Buffet test: Q=56

S2-TORSION RMS = 0.232342 SARL_TPN_3357: alpha=20 beta=4 wbp=45
 S2-TORSION RMS = 0.609214 SARL_TPN_3359: alpha=24 beta=4 wbp=45
 S2-TORSION RMS = 1.02896 SARL_TPN_3360: alpha=28 beta=4 wbp=45
 S2-TORSION RMS = 0.586426 SARL_TPN_3361: alpha=32 beta=4 wbp=45



S1-BENDING RMS = 0.324086 SARL_TPN_3357: alpha=20 beta=4 wbp=45
 S1-BENDING RMS = 0.549562 SARL_TPN_3339: alpha=20 beta=0 wbp=45
 S1-BENDING RMS = 0.655035 SARL_TPN_3375: alpha=20 beta=-4 wbp=45



1-15 Critical Tail Buffet Test: Q=56

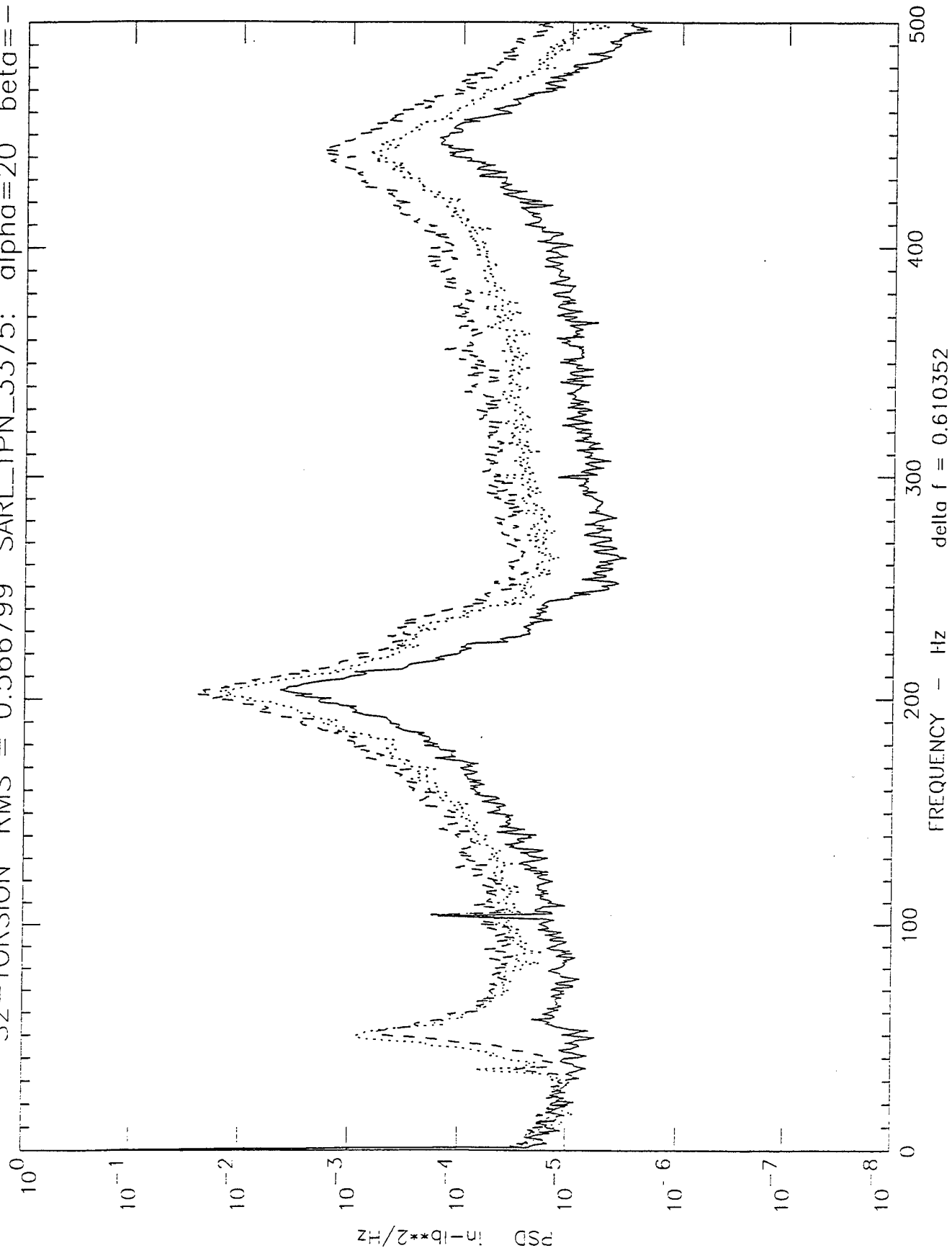
wp=45
wp=45
wp=45

alpha=20 beta=4
alpha=20 beta=0
alpha=20 beta=-4

SARL_TPN_3357:
SARL_TPN_3339:
SARL_TPN_3375:

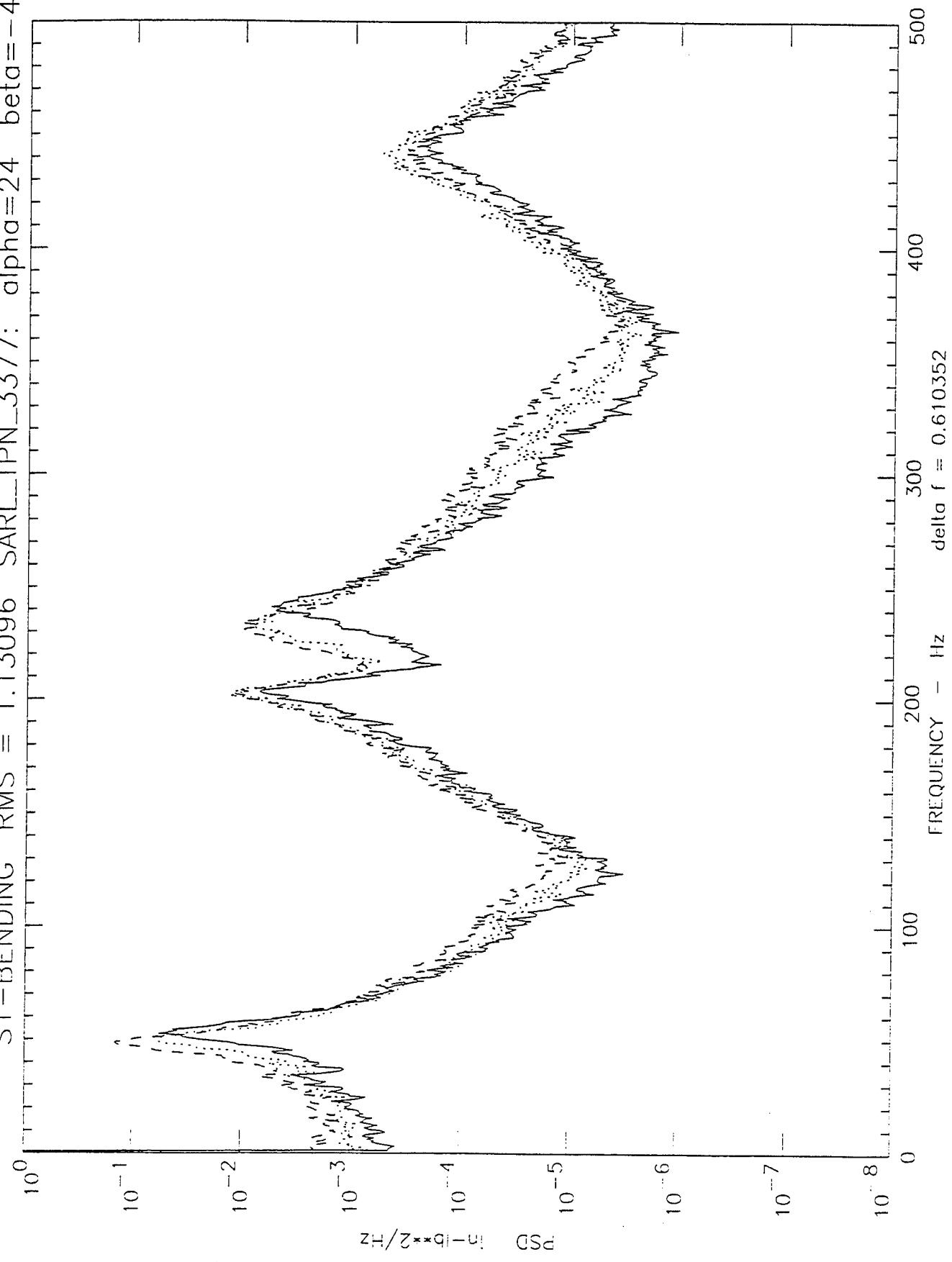
RMS = 0.232342
RMS = 0.431627
RMS = 0.566799

S2-TORSION
S2-TORSION
S2-TORSION



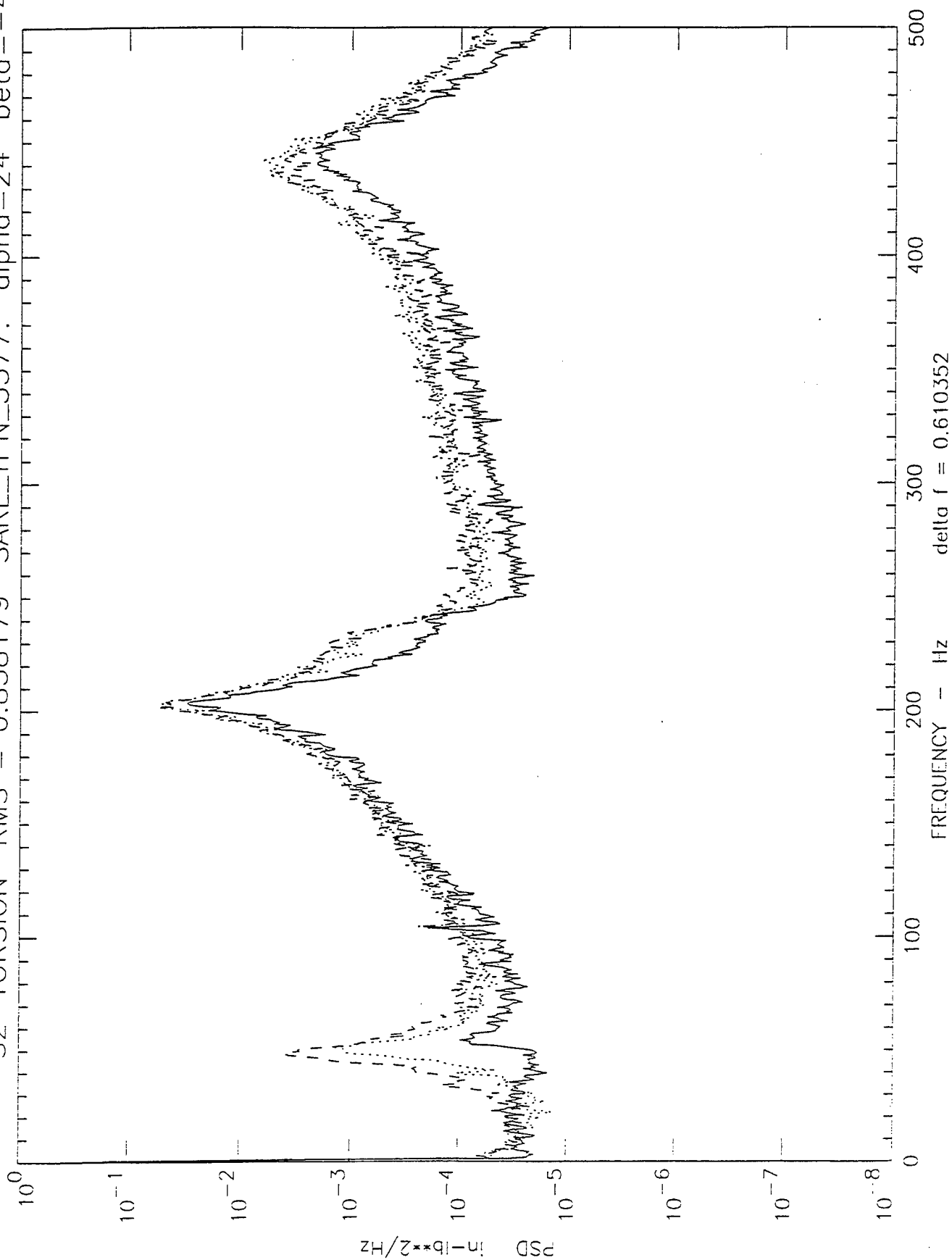
S1-BENDING RMS = 0.722612 SARL_TPN_3359: alpha=24 beta=4
 S1-BENDING RMS = 0.871690 SARL_TPN_3341: alpha=24 beta=0
 S1-BENDING RMS = 1.13096 SARL_TPN_3377: alpha=24 beta=-4

wbp=45
 wbp=45
 wbp=45

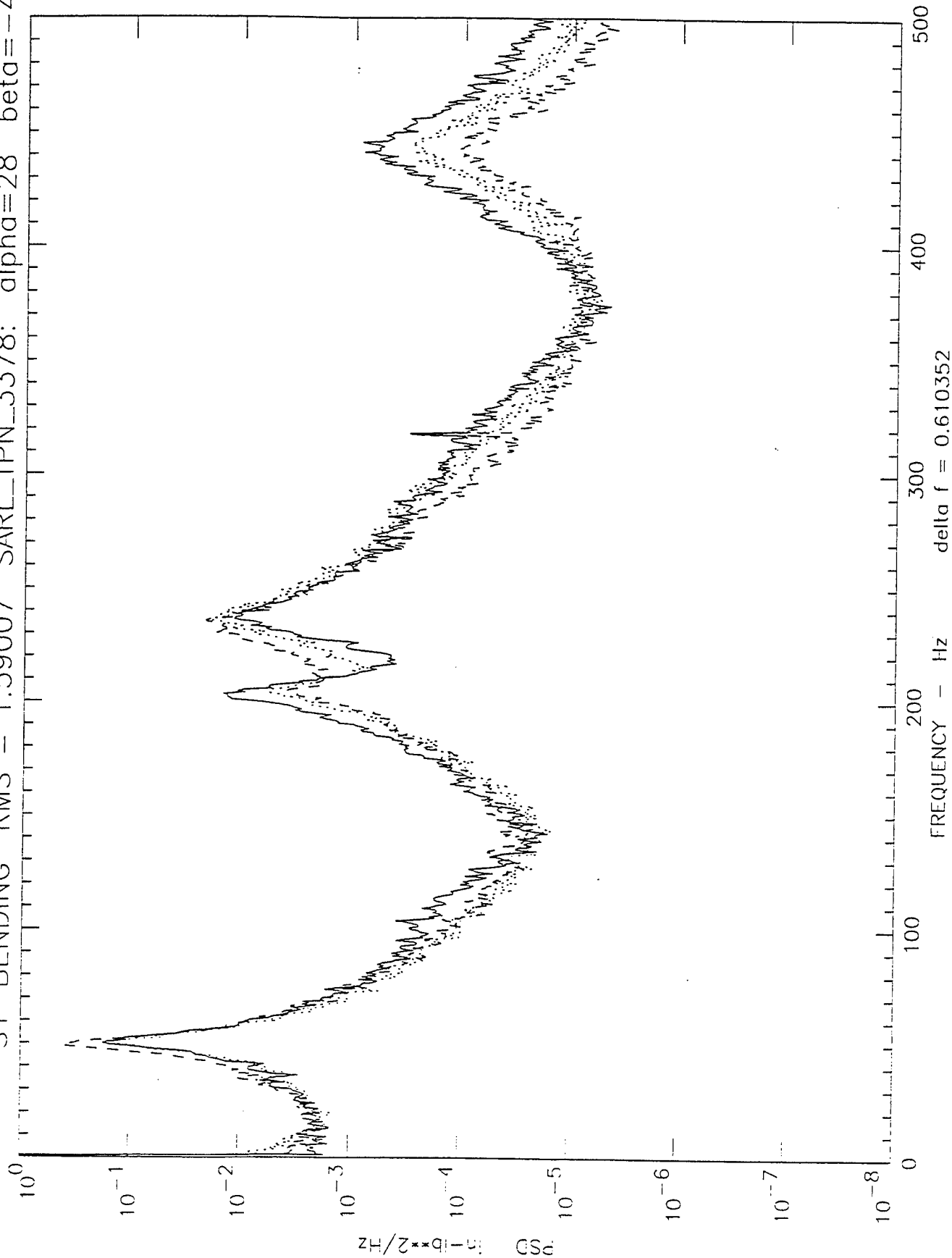


Physical Tail Buffet Test: Q=56

---	S2-TORSION	RMS = 0.609214	SARL_TPN_3359:	alpha=24	beta=4	wbp=45
---	S2-TORSION	RMS = 0.859594	SARL_TPN_3341:	alpha=24	beta=0	wbp=45
---	S2-TORSION	RMS = 0.858179	SARL_TPN_3377:	alpha=24	beta=-4	wbp=45

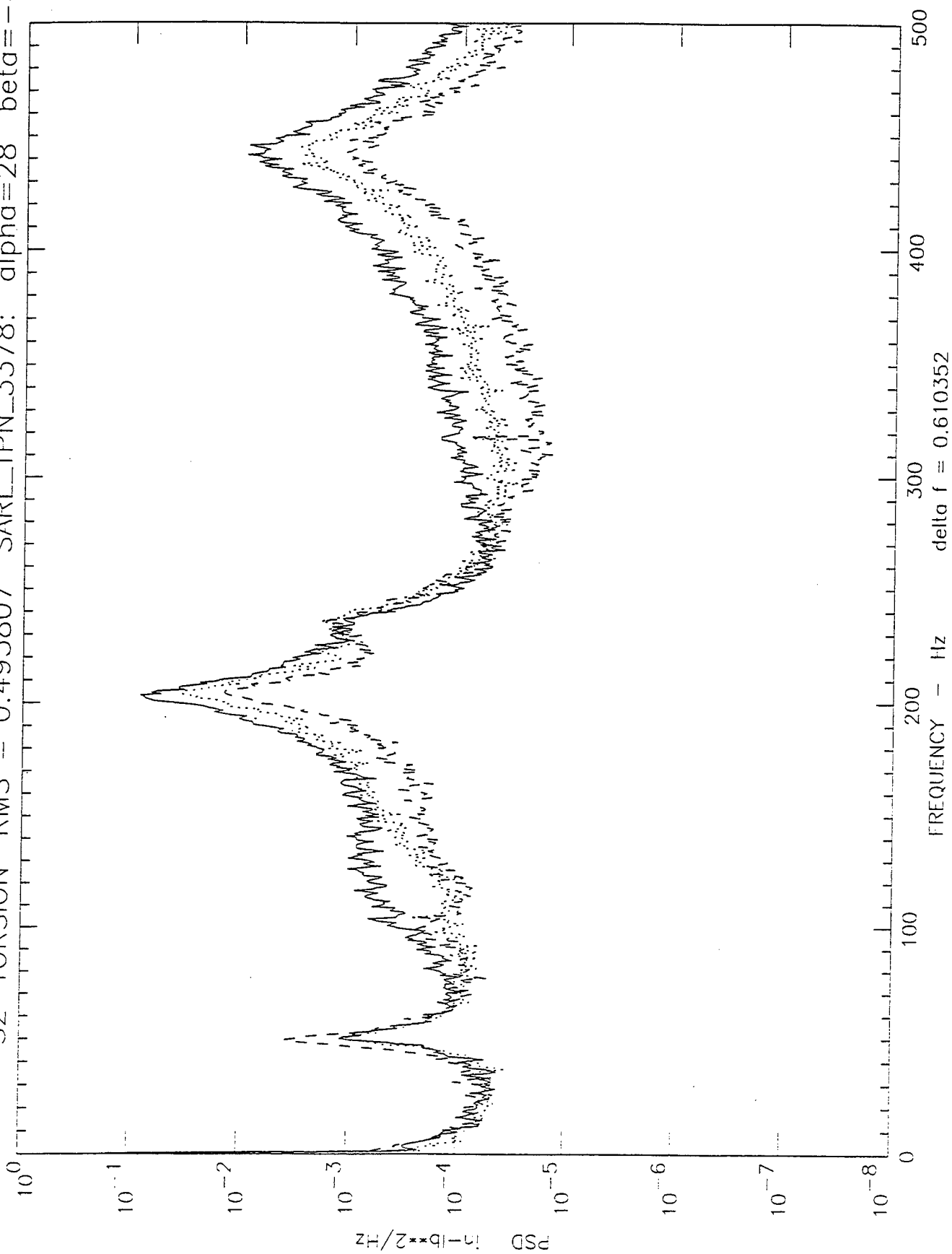


--- S1-BENDING RMS = 1.20685 SARL_TPN_3360: alpha=28 beta=4 wbp=45
 S1-BENDING RMS = 1.15022 SARL_TPN_3342: alpha=28 beta=0 wbp=45
 - - - S1-BENDING RMS = 1.59007 SARL_TPN_3378: alpha=28 beta=-4 wbp=45



F-15 critical tail Buffet test: Q=56

S2-TORSION RMS = 1.02896 SARL_TPN_3360: alpha=28 beta=4 wbp=45
 S2-TORSION RMS = 0.709737 SARL_TPN_3342: alpha=28 beta=0 wbp=45
 S2-TORSION RMS = 0.493807 SARL_TPN_3378: alpha=28 beta=-4 wbp=45



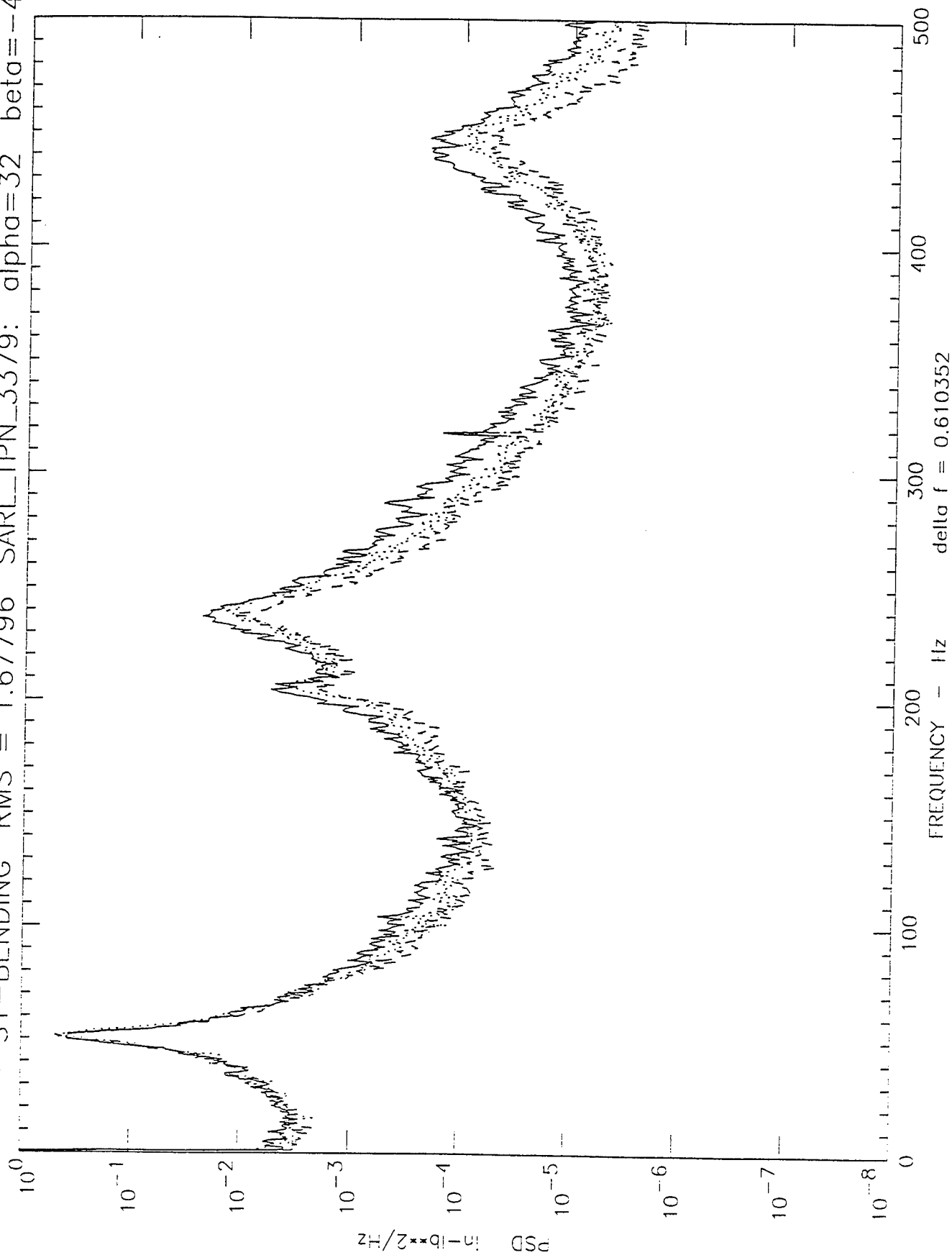
wp=45
wp=45
wp=45

alpha=4
alpha=0
alpha=32

SARL_TPN_3361:
SARL_TPN_3343:
SARL_TPN_3379:

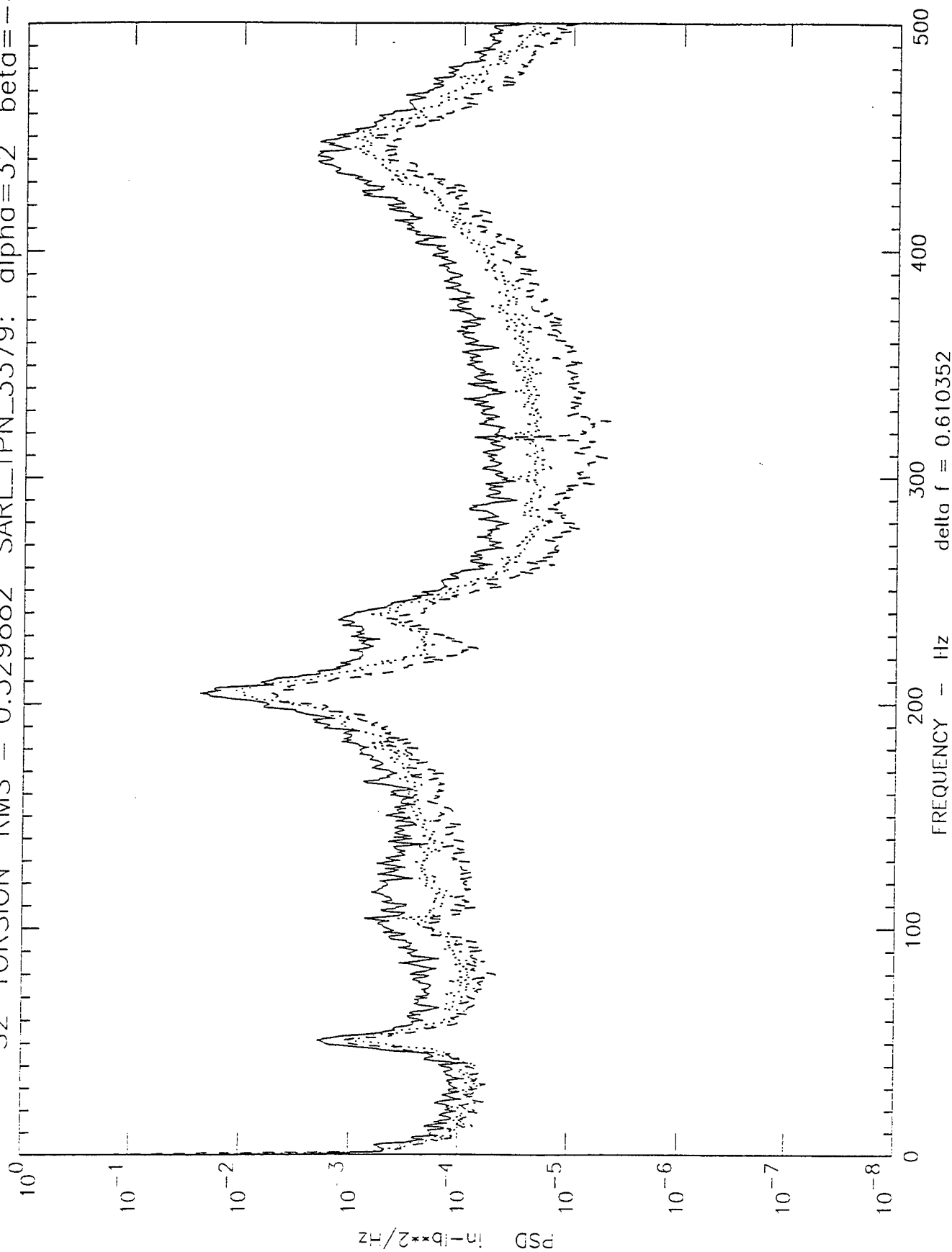
RMS = 1.73695
RMS = 1.70740
RMS = 1.67796

S1-BENDING
S1-BENDING
S1-BENDING

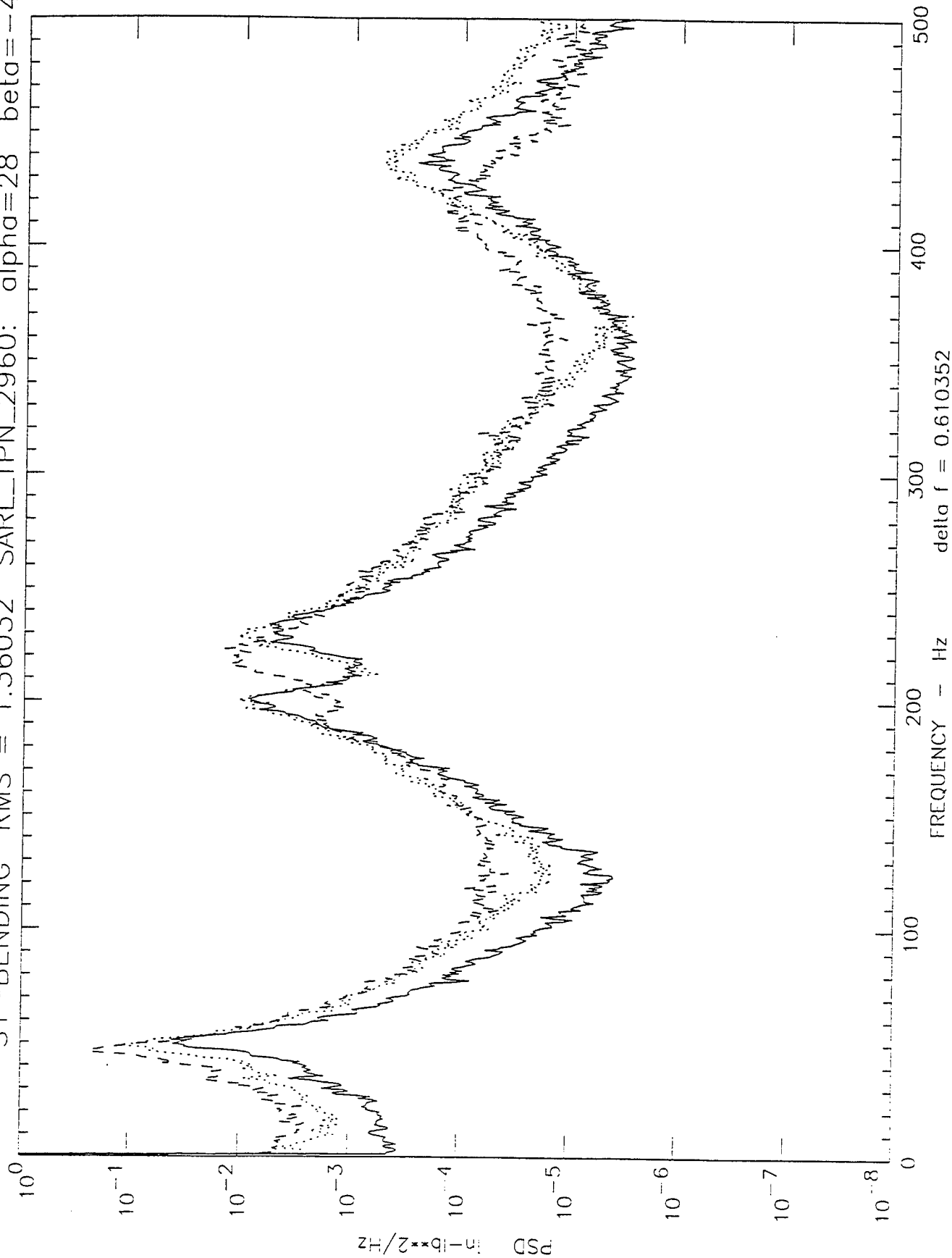


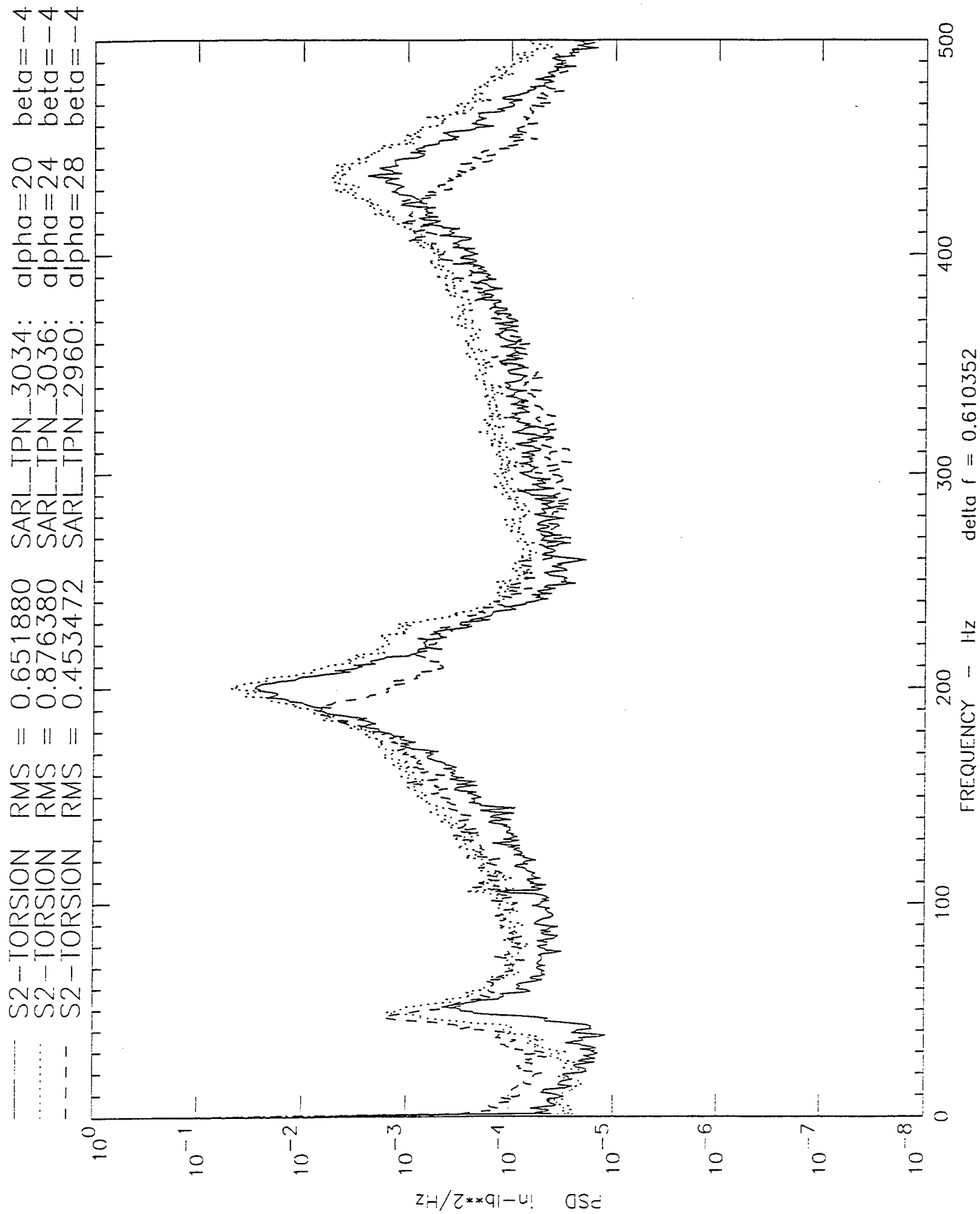
F-15 Critical Tail Buffet Test: Q=56

—	S2-TORSION	RMS = 0.586426	SARL_TPN_3361:	alpha=32	beta=4	wbp=45
...	S2-TORSION	RMS = 0.425601	SARL_TPN_3343:	alpha=32	beta=0	wbp=45
---	S2-TORSION	RMS = 0.329882	SARL_TPN_3379:	alpha=32	beta=-4	wbp=45



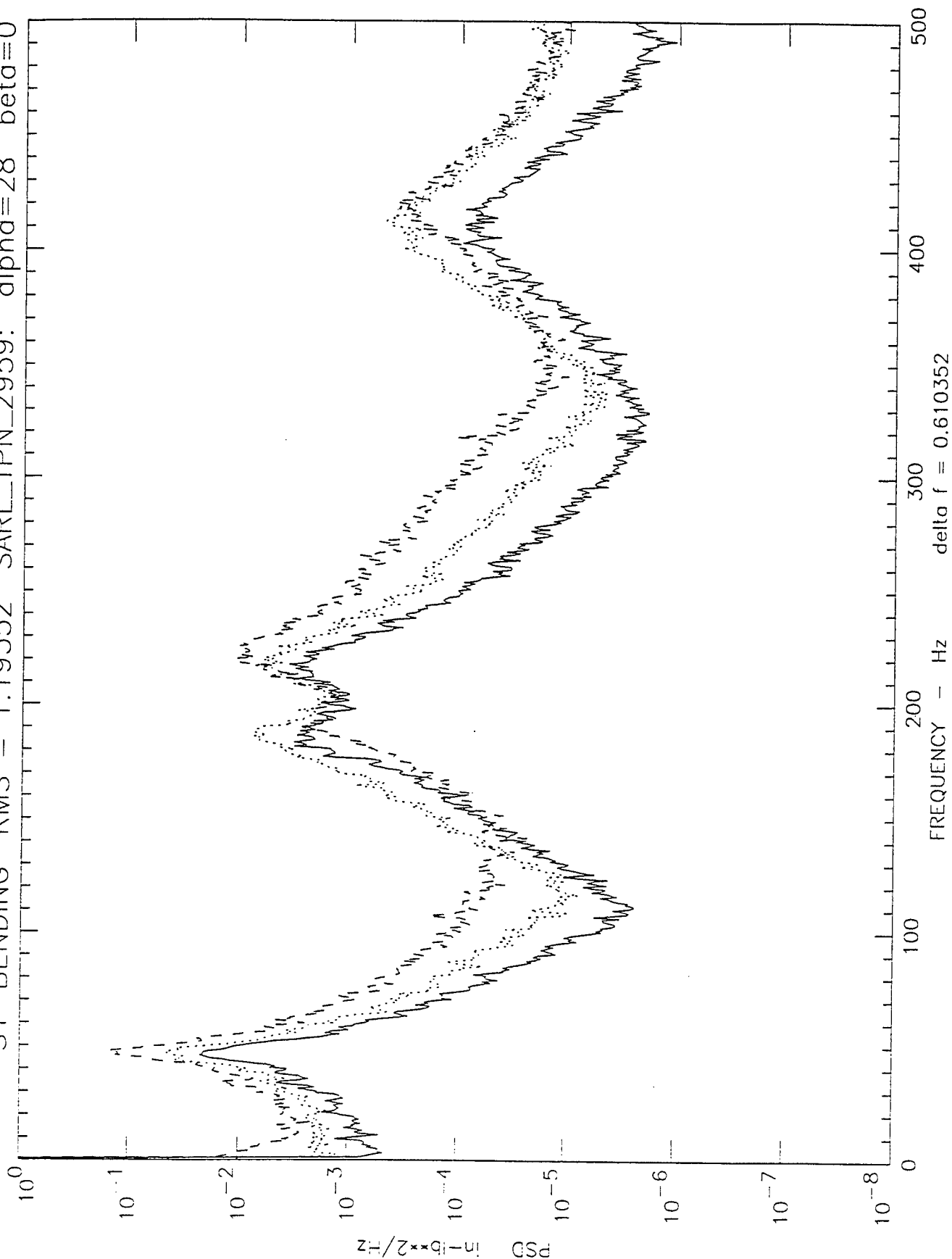
--- S1-BENDING RMS = 0.726848 SARL_TPN_3034: alpha=20 beta=-4 wbp=6
 S1-BENDING RMS = 1.05090 SARL_TPN_3036: alpha=24 beta=-4 wbp=65
 - - - - S1-BENDING RMS = 1.36032 SARL_TPN_2960: alpha=28 beta=-4 wbp=65





S1-BENDING RMS = 0.584972 SARL_TPN_2981: alpha=20 beta=0
 S1-BENDING RMS = 0.856831 SARL_TPN_2983: alpha=24 beta=0
 S1-BENDING RMS = 1.19552 SARL_TPN_2959: alpha=28 beta=0

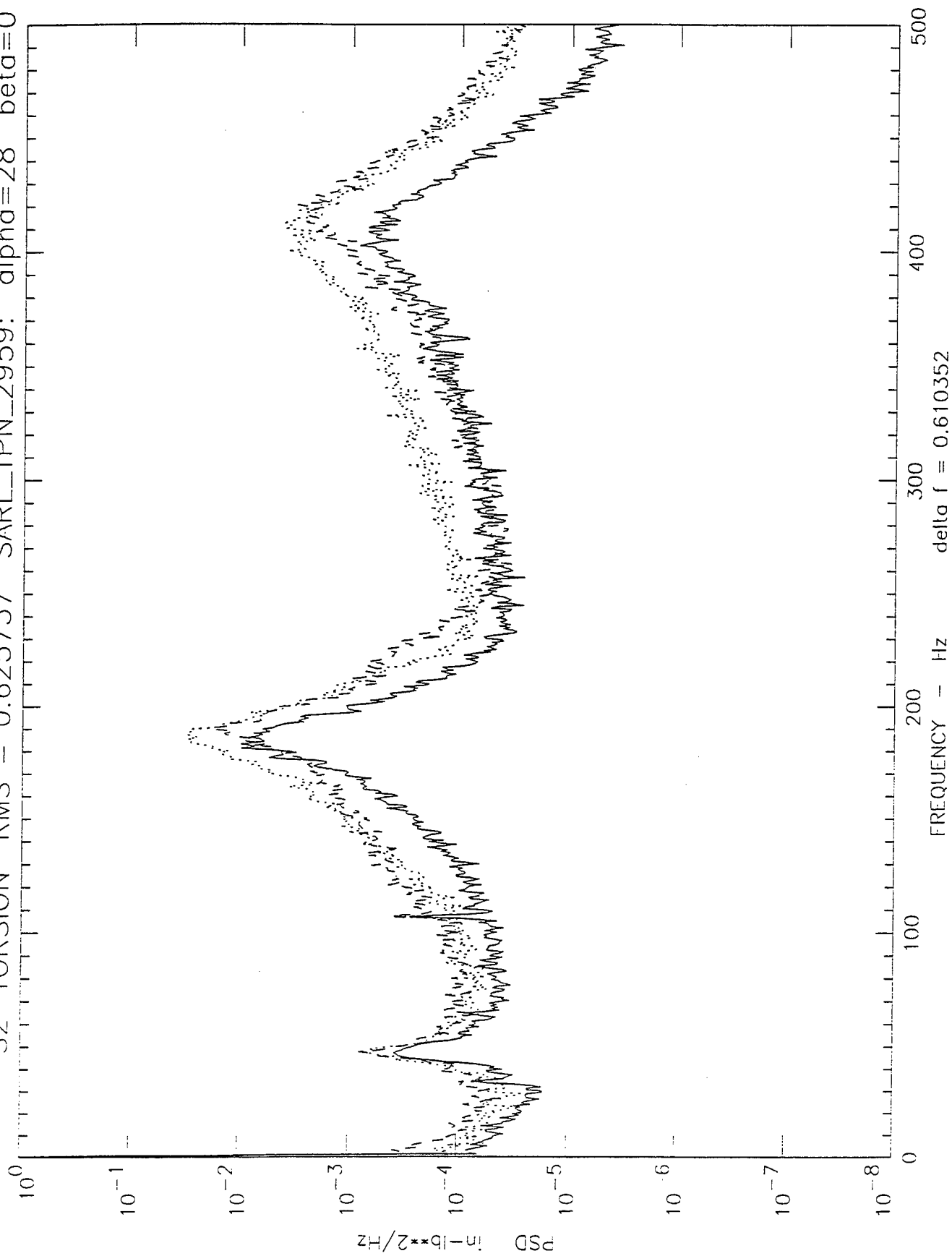
wbp=65
 wbp=65
 wbp=65



1 10 Critical Tail Bullet test: Q=56

---	S2-TORSION	RMS = 0.436062	SARL_TPN_2981:	alpha=20	beta=0
---	S2-TORSION	RMS = 0.836389	SARL_TPN_2983:	alpha=24	beta=0
---	S2-TORSION	RMS = 0.625737	SARL_TPN_2959:	alpha=28	beta=0

wbp=65
wbp=65
wbp=65



S1-BENDING RMS = 0.387771 SARL_TPN_3046: alpha=20 beta=4
 S1-BENDING RMS = 0.748224 SARL_TPN_3048: alpha=24 beta=4
 S1-BENDING RMS = 1.08228 SARL_TPN_2961: alpha=28 beta=4

wbp=65
 wbp=65
 wbp=65

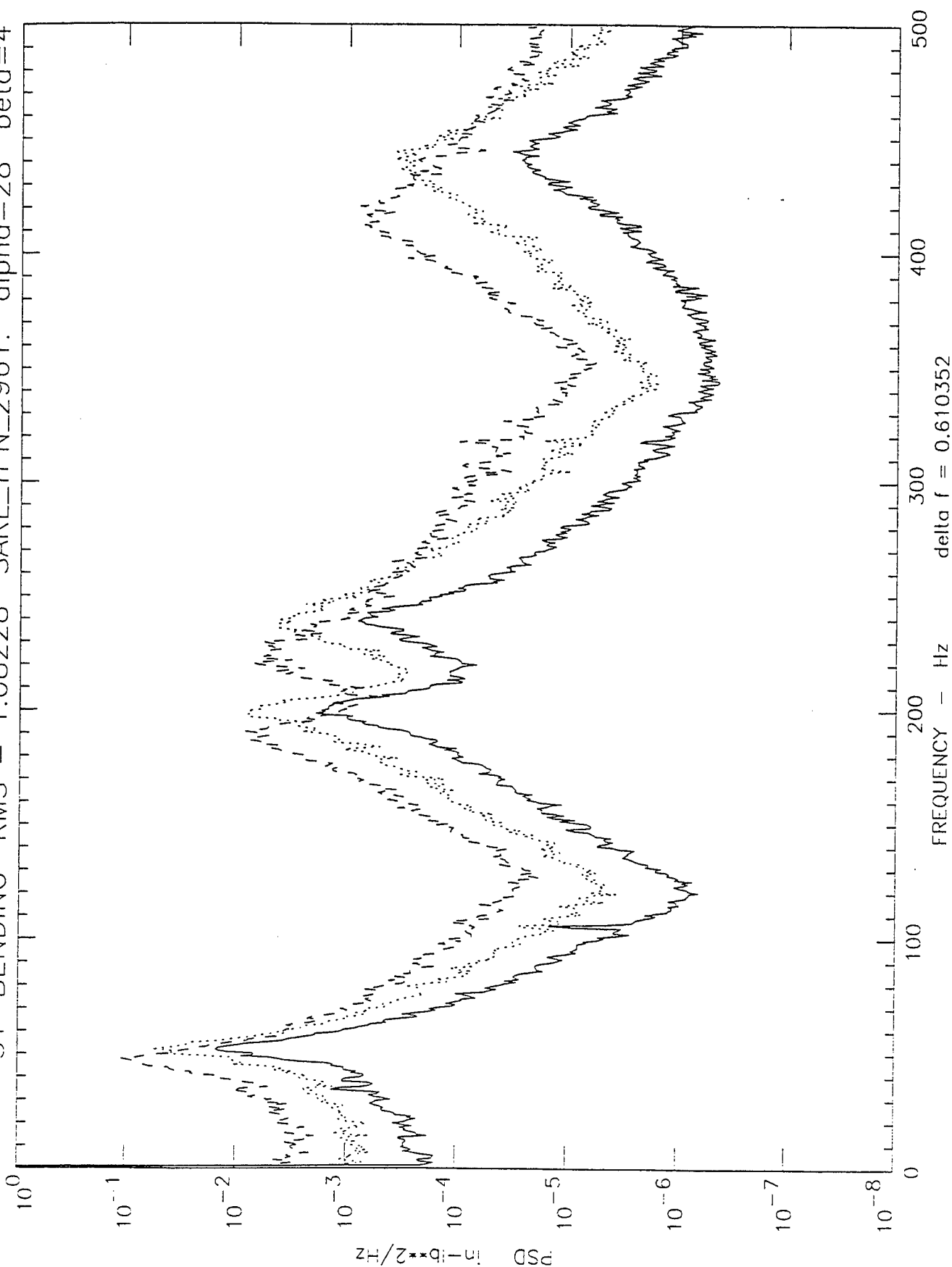
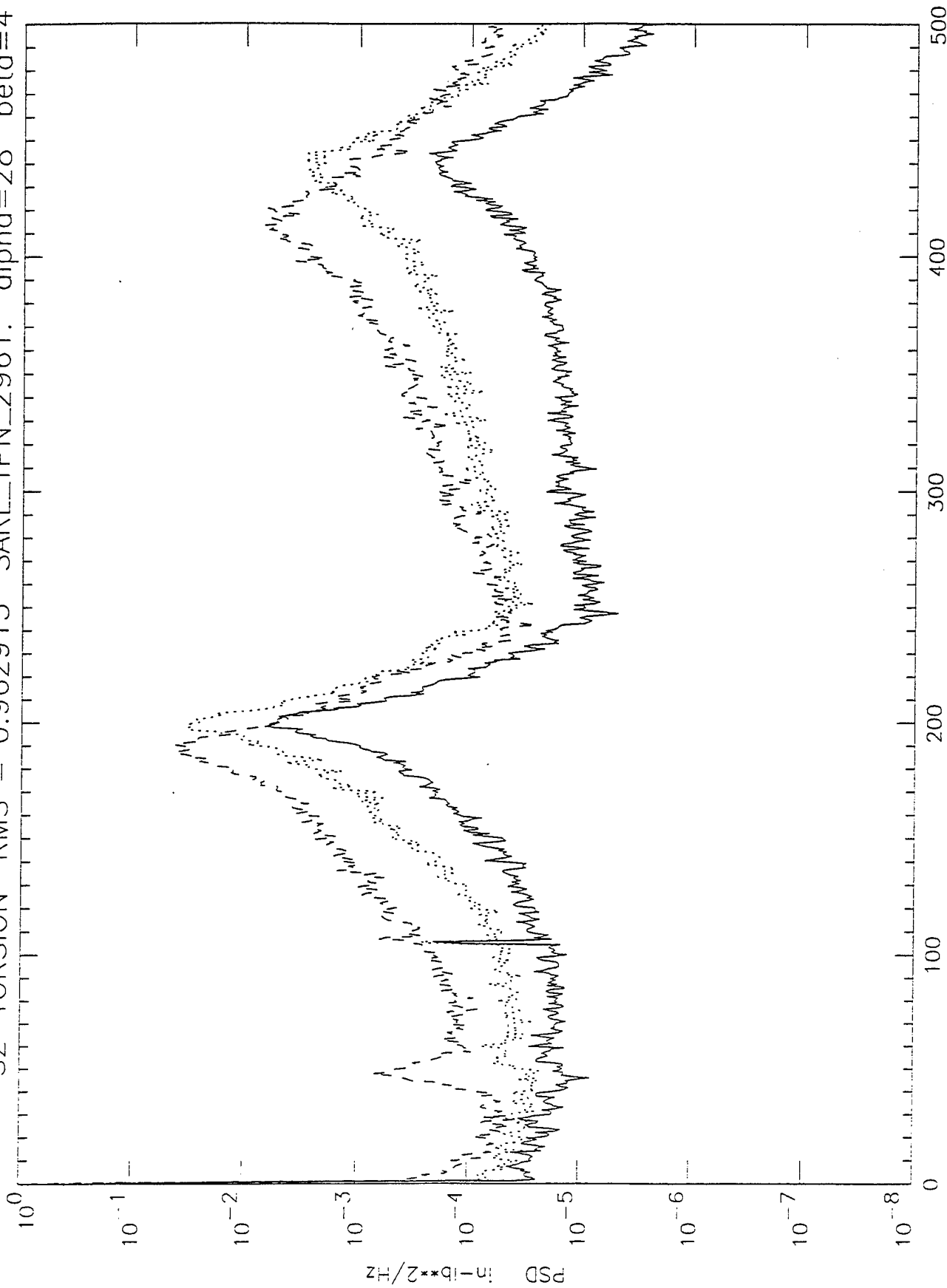


FIG 10 TUCAL Tail Bullet Test: Q=56

—	S2-TORSION	RMS = 0.294953	SARL_TPN_3046:	alpha=20	beta=4
.....	S2-TORSION	RMS = 0.714004	SARL_TPN_3048:	alpha=24	beta=4
- - - -	S2-TORSION	RMS = 0.962913	SARL_TPN_2961:	alpha=28	beta=4



FREQUENCY - Hz delta f = 0.610352

wbp=65
wbp=65
wbp=65

S1-BENDING
S1-BENDING
S1-BENDING



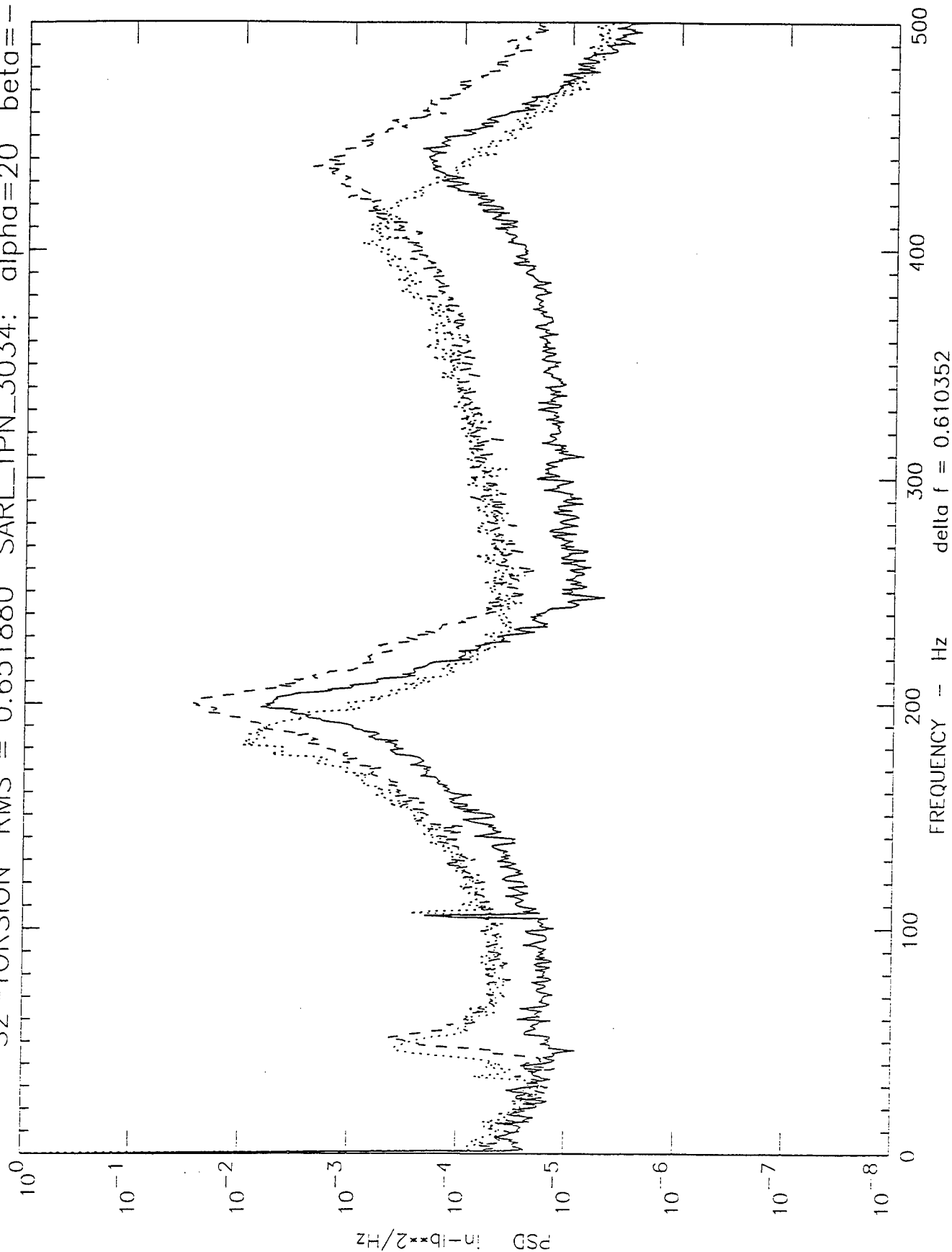
1 - 15 critical tail Bullet test: Q=56

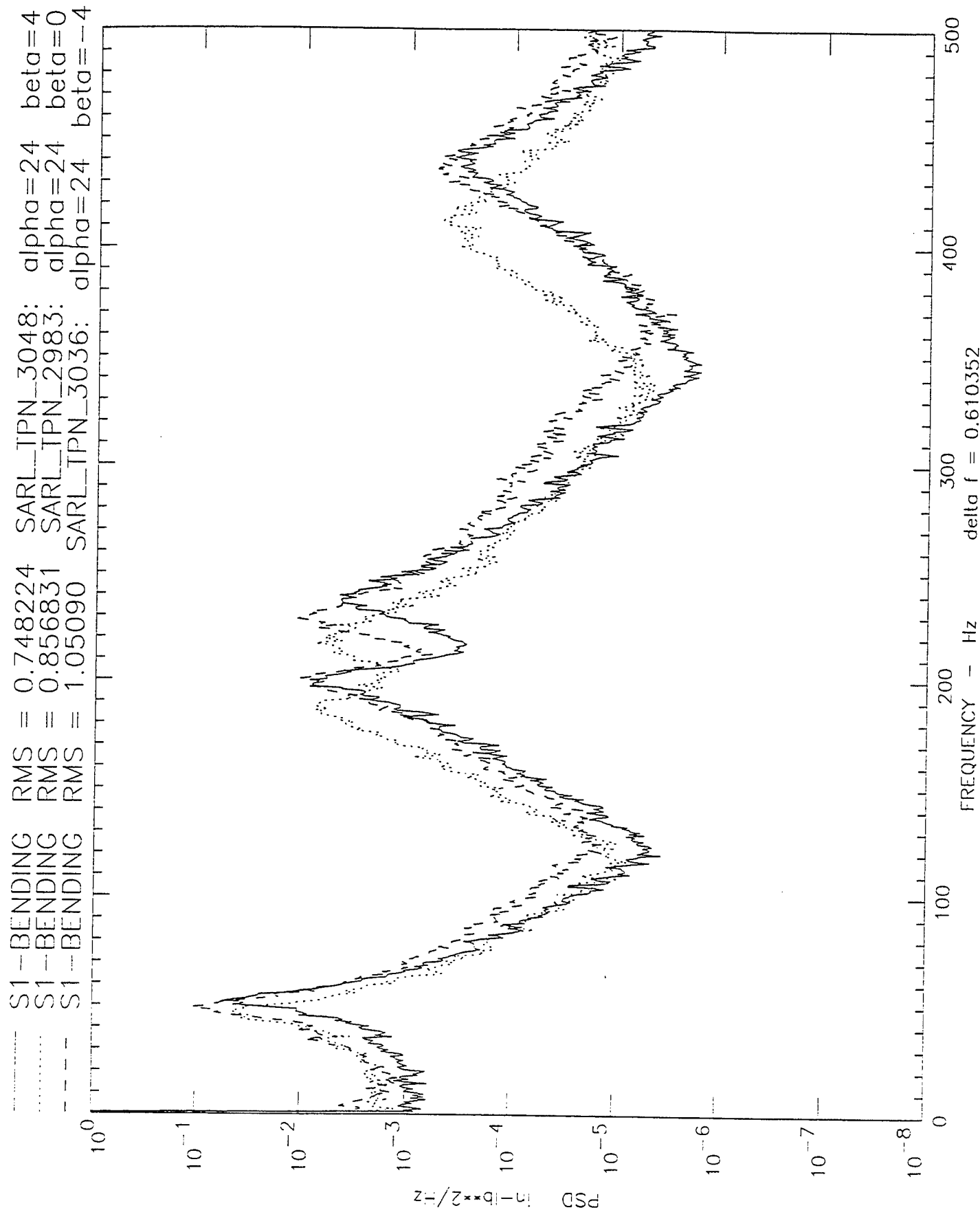
S2-TORSION RMS = 0.294953
 S2-TORSION RMS = 0.436062
 S2-TORSION RMS = 0.651880

alpha=20
 alpha=20
 alpha=20

beta=4
 beta=0
 beta=-4

wbp=6
 wbp=6
 wbp=6

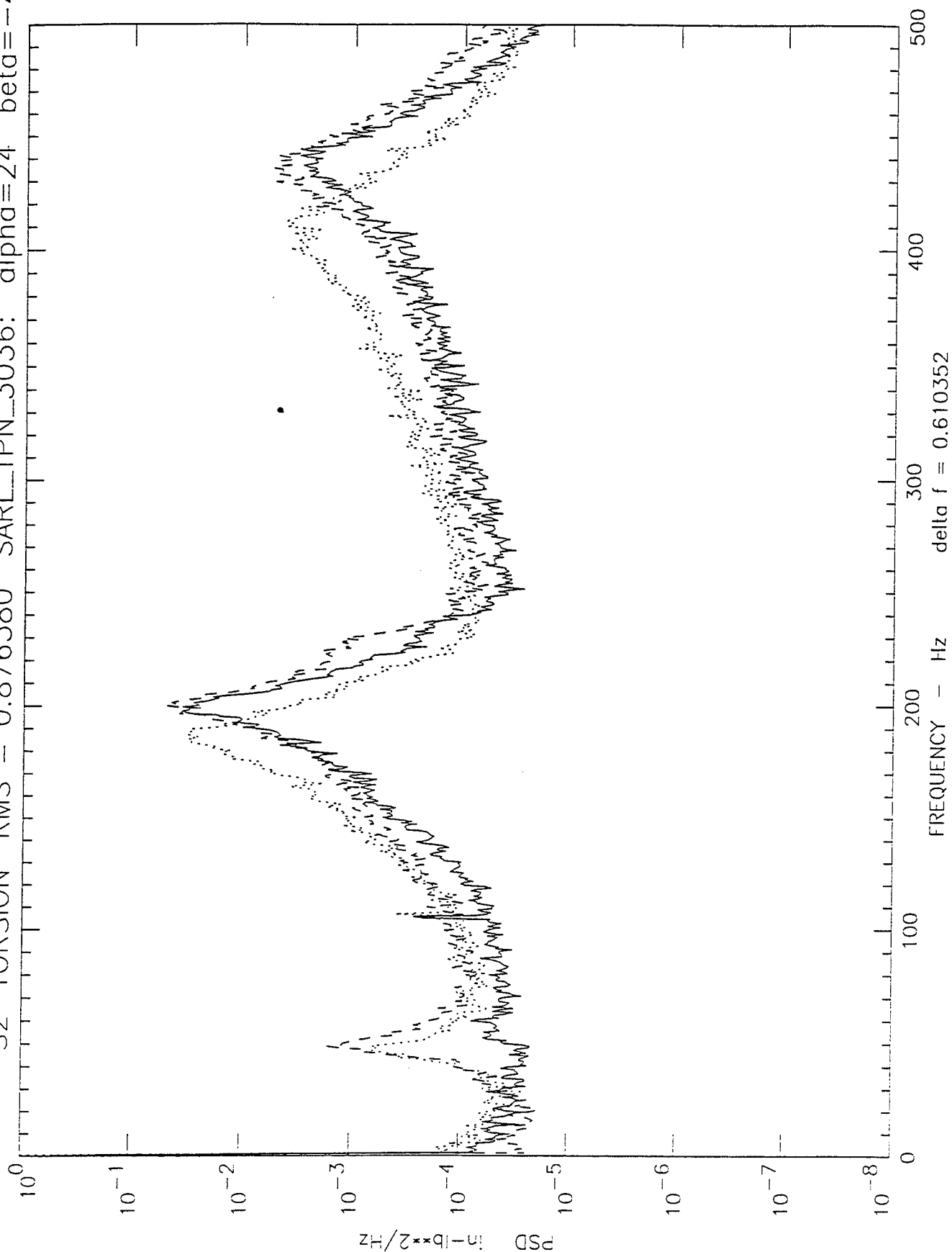




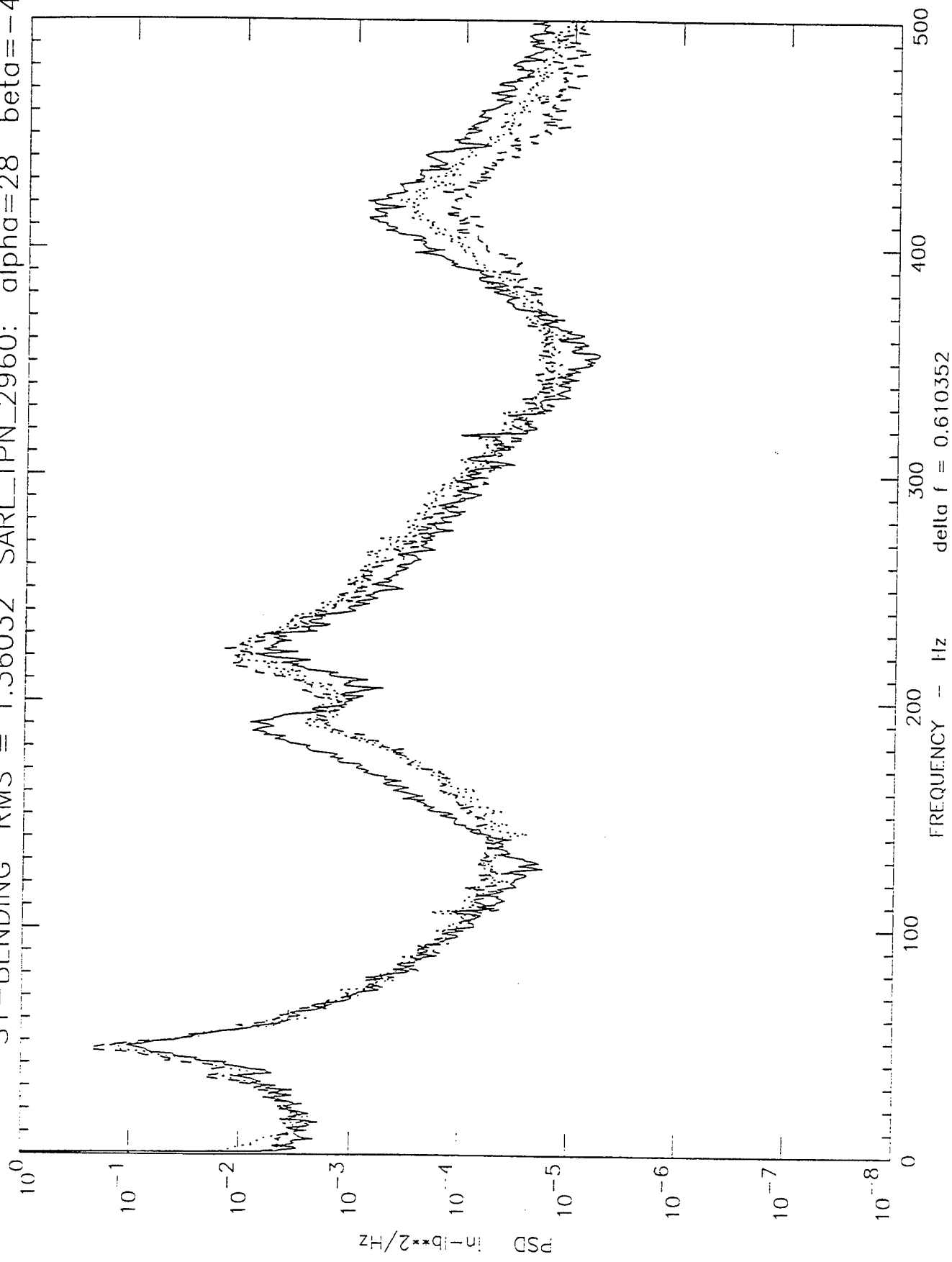
107 linear tail bullet test: Q=56

wpb=6!
wpb=6!
wpb=6

S2-TORSION RMS = 0.714004 SARL_IPN_3048: alpha=24 beta=4
S2-TORSION RMS = 0.836389 SARL_IPN_2983: alpha=24 beta=0
S2-TORSION RMS = 0.876380 SARL_IPN_3036: alpha=24 beta=-4

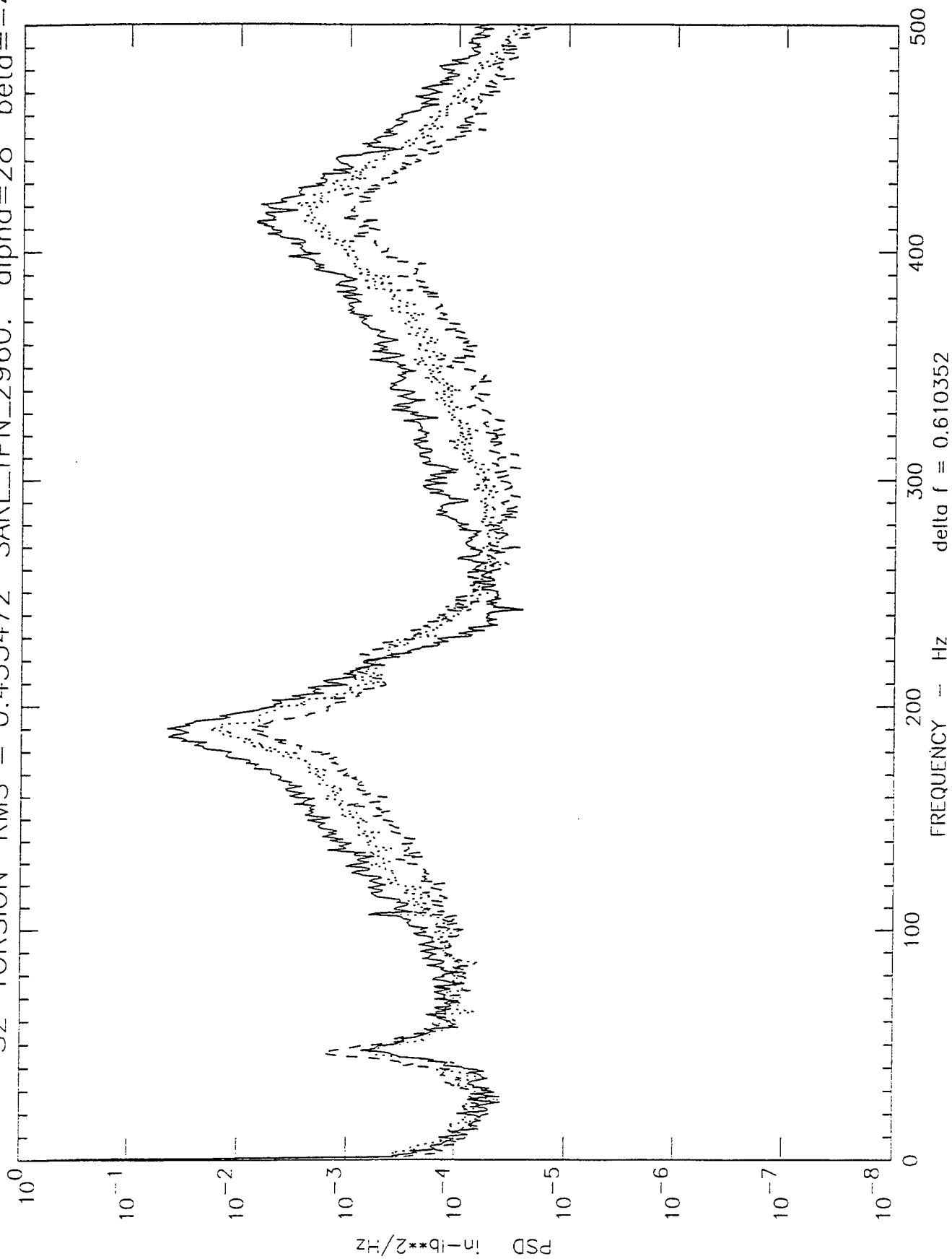


S1-BENDING RMS = 1.08228 SARL_TPN_2961: alpha=28 beta=4 wbp=65
S1-BENDING RMS = 1.19552 SARL_TPN_2959: alpha=28 beta=0 wbp=65
S1-BENDING RMS = 1.36032 SARL_TPN_2960: alpha=28 beta=-4 wbp=65

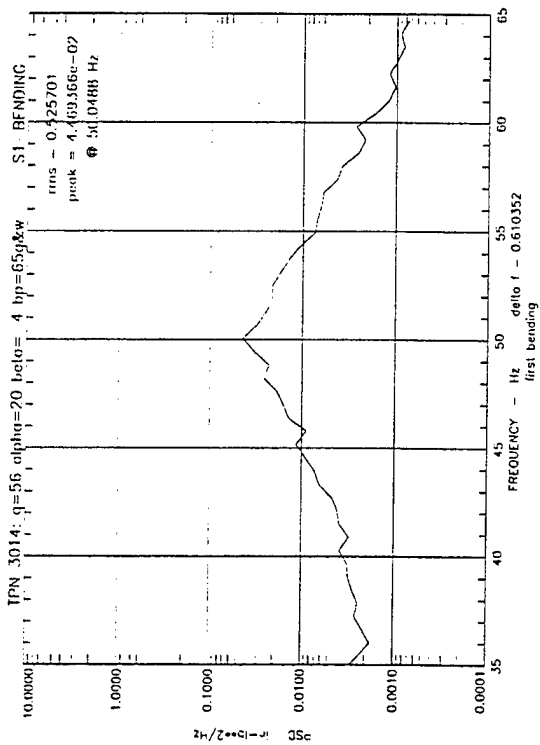


15 critical tail Buffet test: Q=56

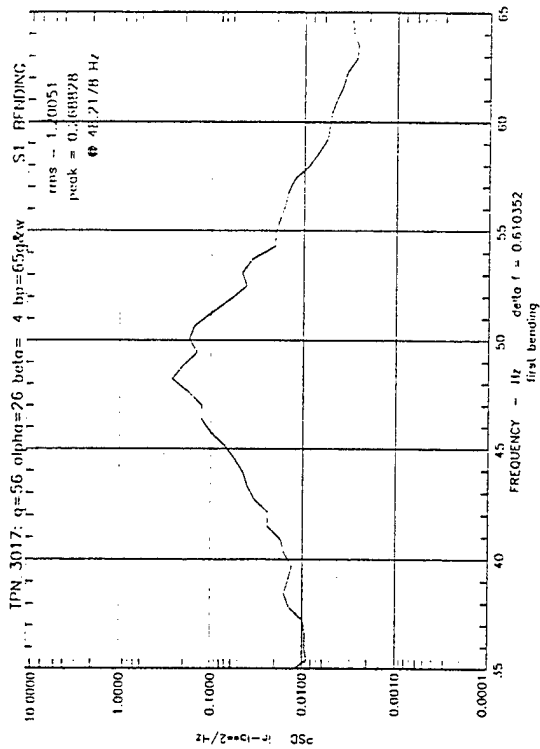
--- S2-TORSION RMS = 0.962913 SARL_TPN_2961: alpha=28 beta=4 wbp=65
 S2-TORSION RMS = 0.625737 SARL_TPN_2959: alpha=28 beta=0 wbp=65
 - - - S2-TORSION RMS = 0.453472 SARL_TPN_2960: alpha=28 beta=-4 wbp=65



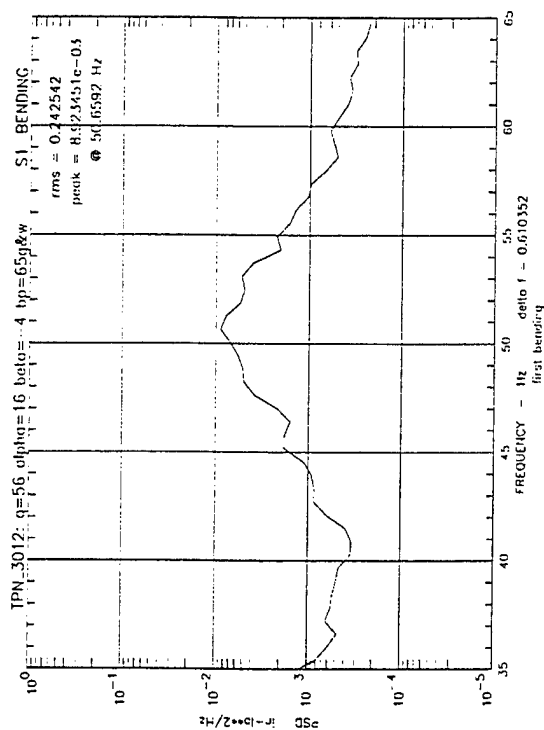
F-15 Tail Buffet Test



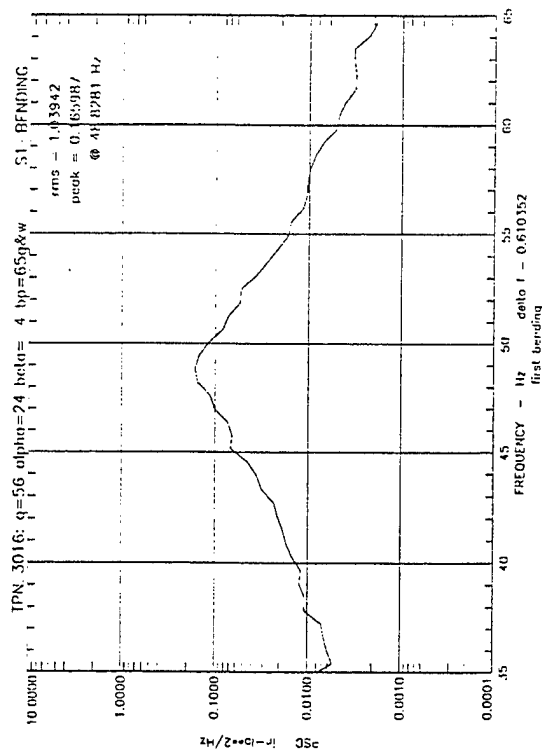
F-15 Tail Buffet Test



F-15 Tail Buffet Test



F-15 Tail Buffet Test

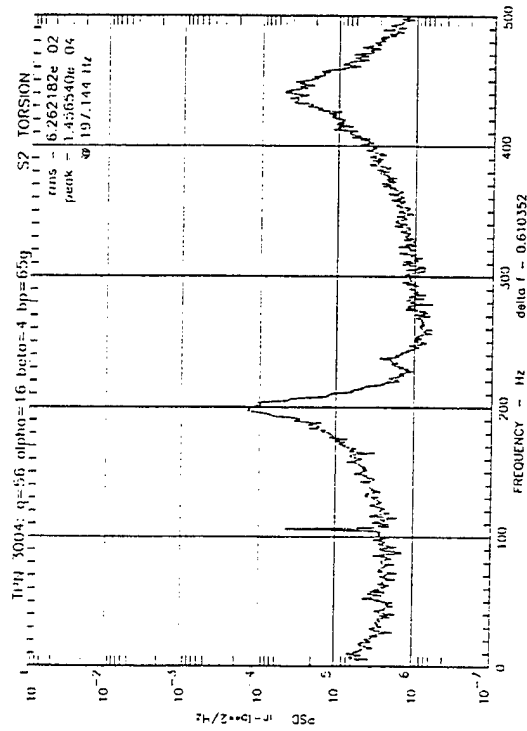


**FLEXIBLE TAIL RESPONSE
DIMENSIONAL BENDING AND TORSION**

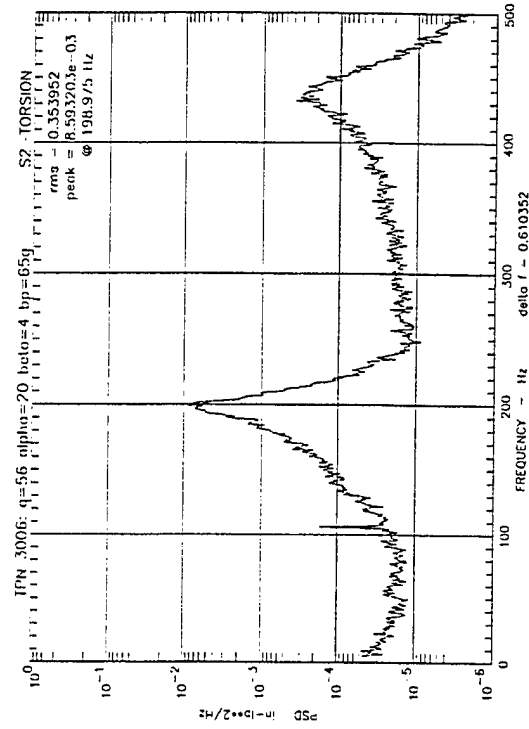
PSD GRAPHS

2.1.1.2 GBP = 65 psi, BETA= 0, +4, -4, ALPHA = 0....32 Deg

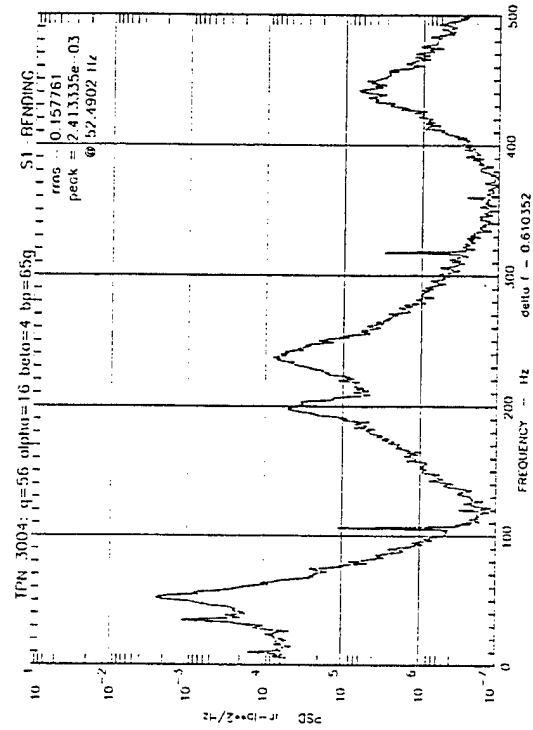
F 15 Tail Buffet Test



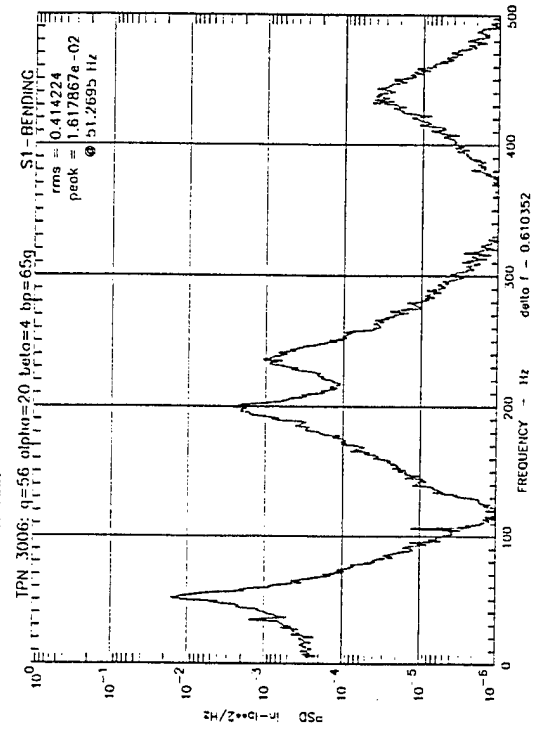
F 15 Tail Buffet Test



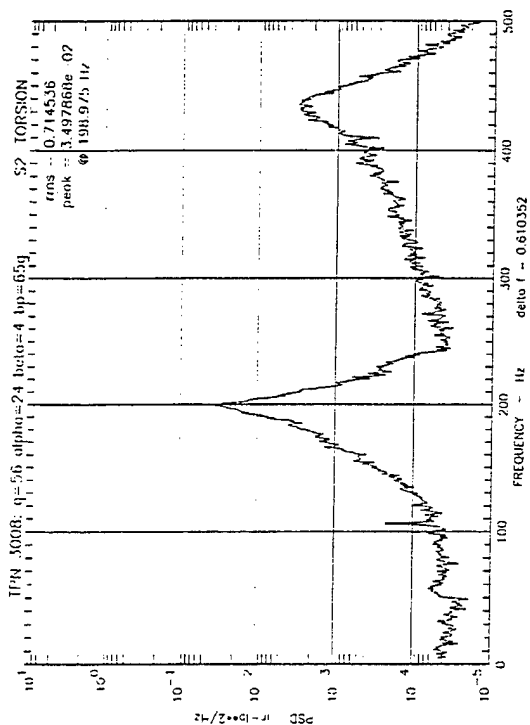
F 15 Tail Buffet Test



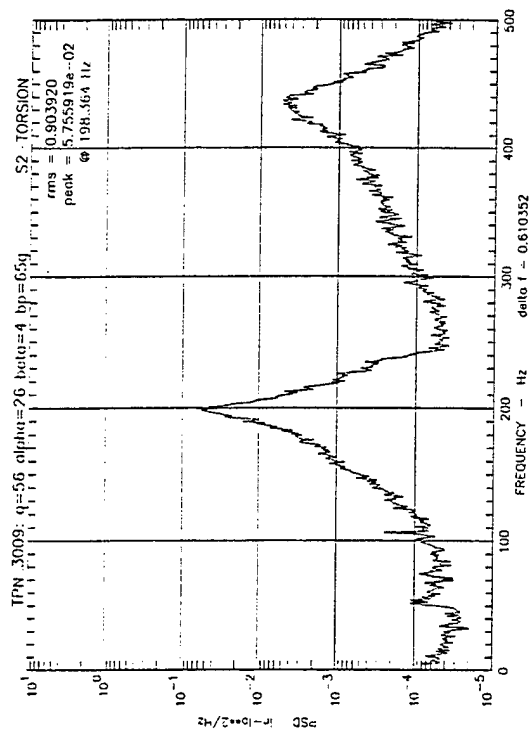
F 15 Tail Buffet Test



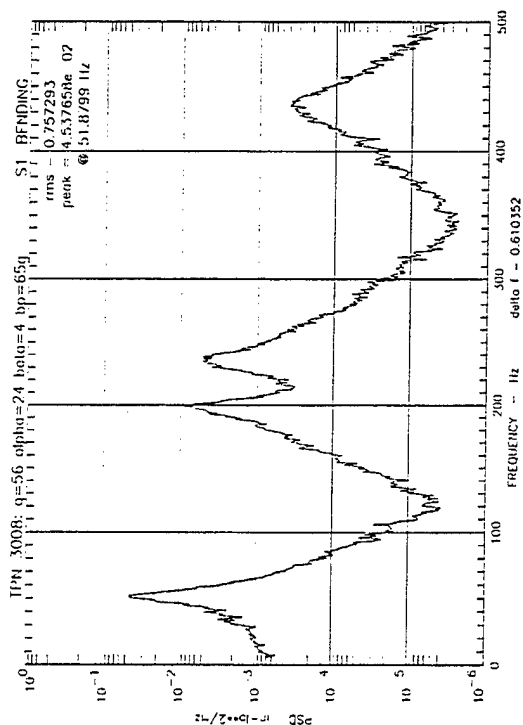
F 15 Tail Buffet Test



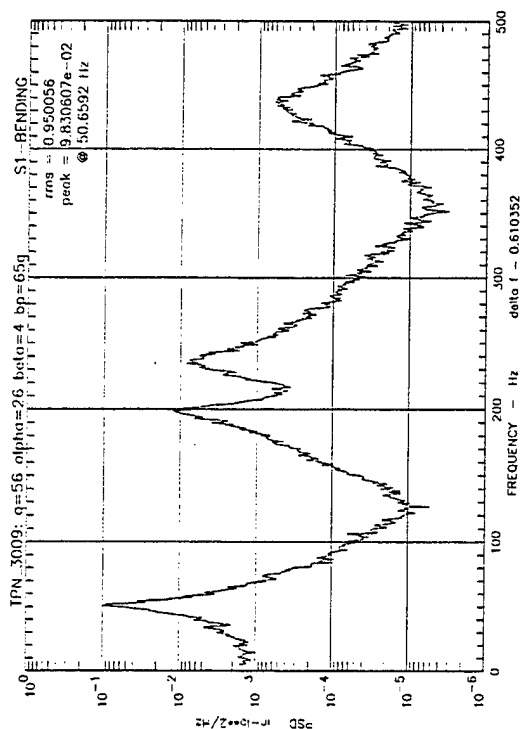
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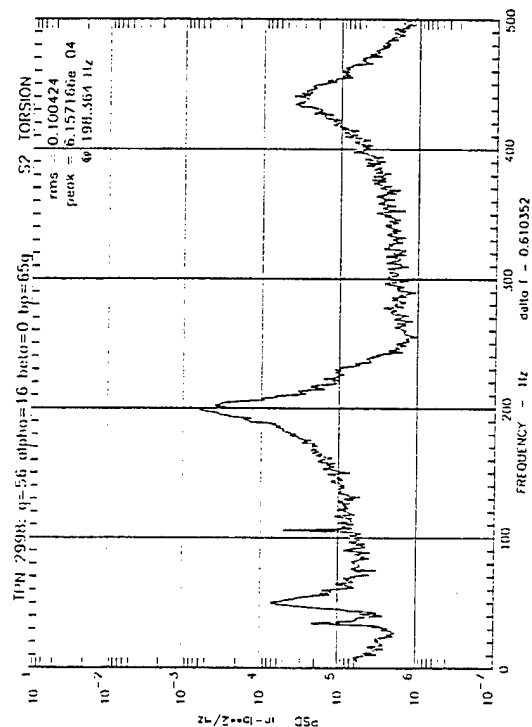
F 15 Tail Buffet Test



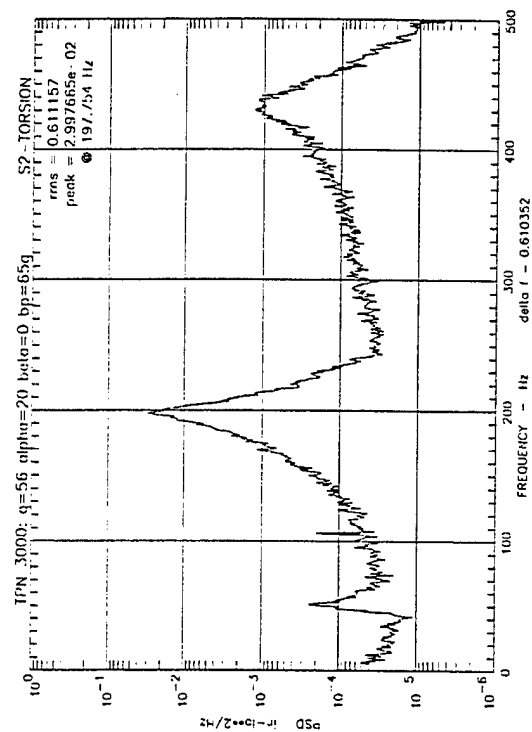
F 15 Tail Buffet Test



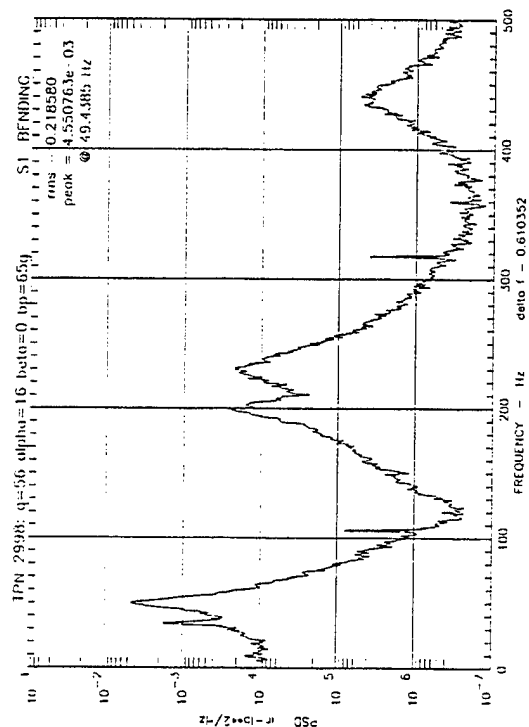
F 15 Tail Buffet Test



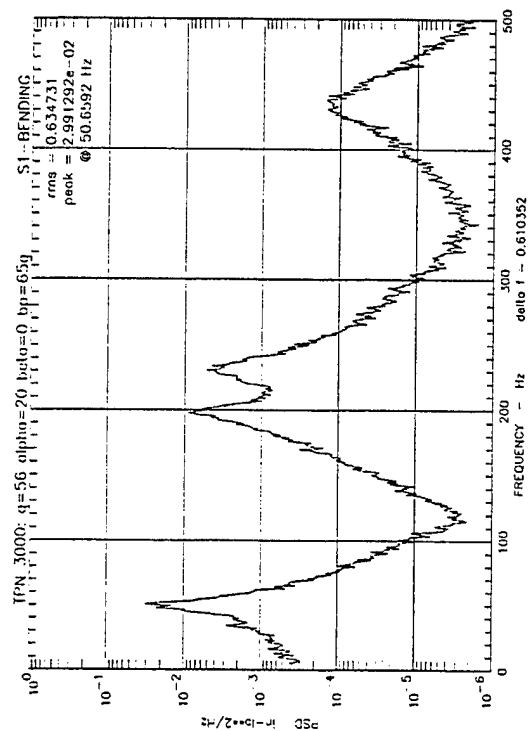
F 15 Tail Buffet Test



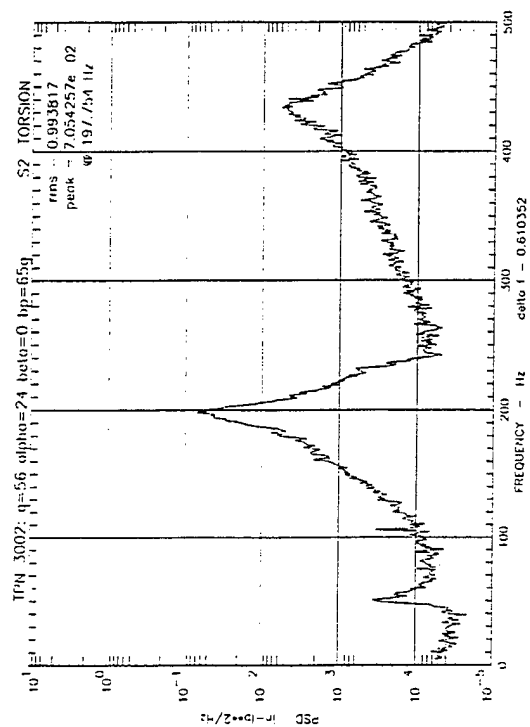
F 15 Tail Buffet Test



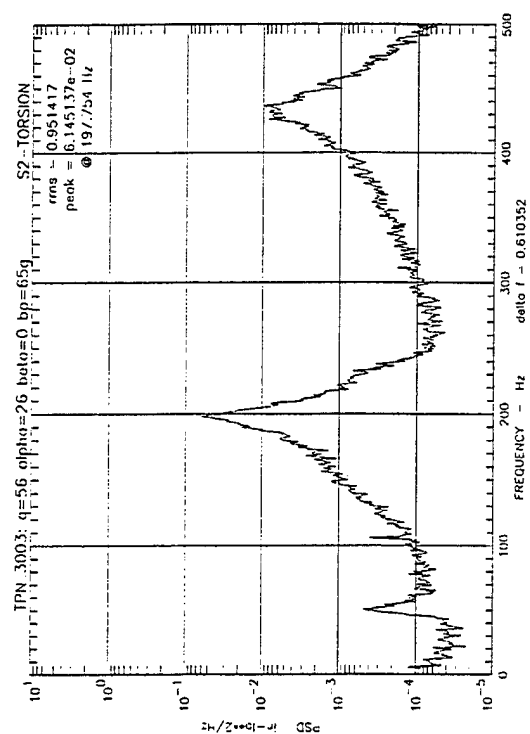
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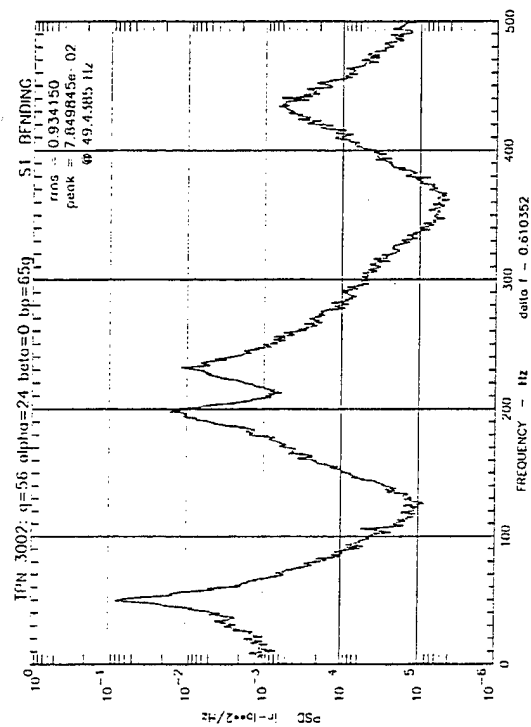
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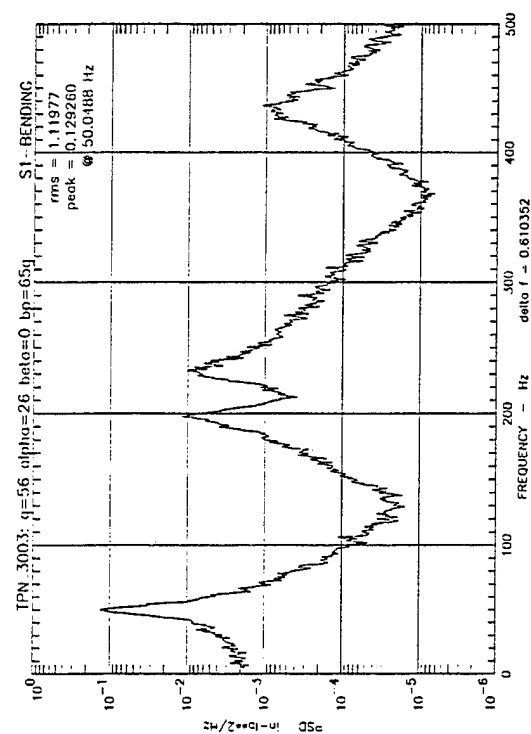
F 15 Tail Buffet Test



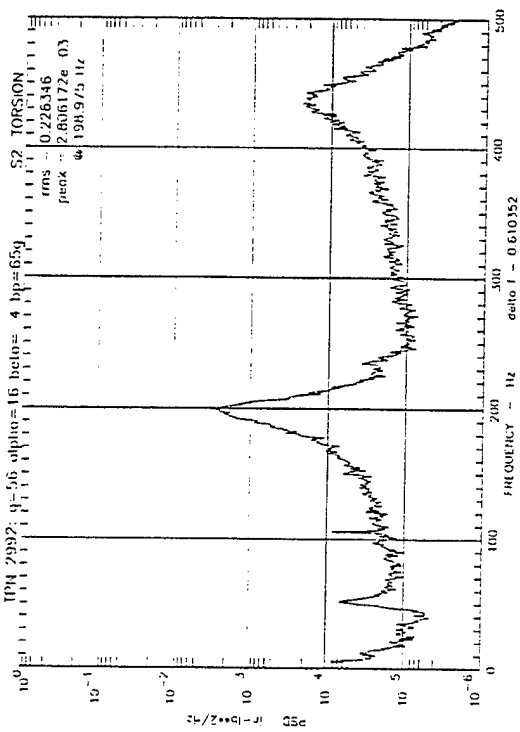
F 15 Tail Buffet Test



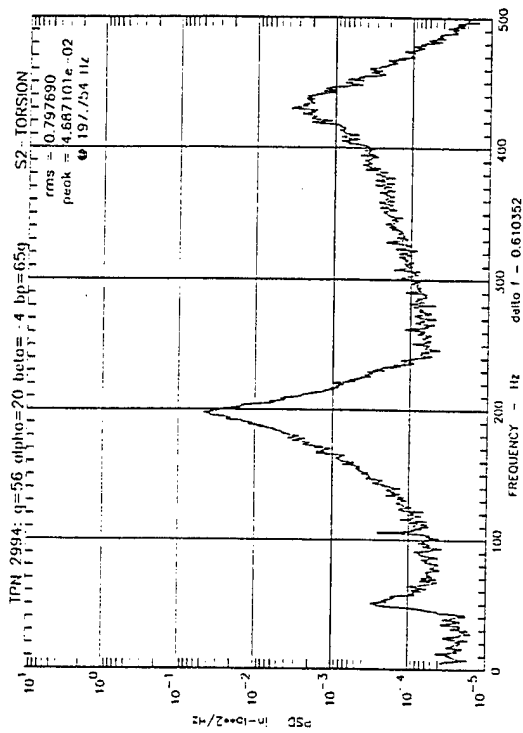
F 15 Tail Buffet Test



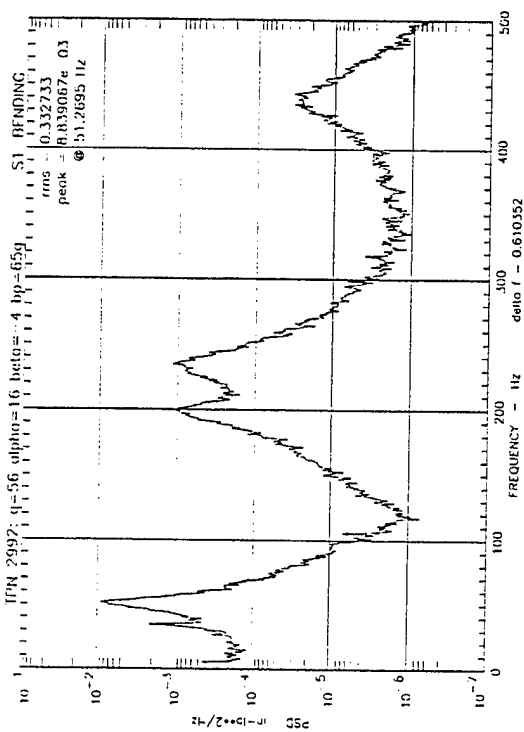
F-15 Tail Buffet Test



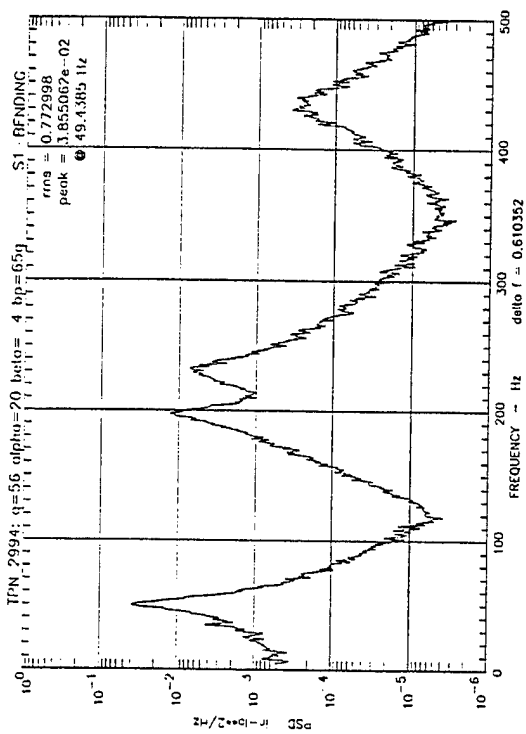
F-15 Tail Buffet Test



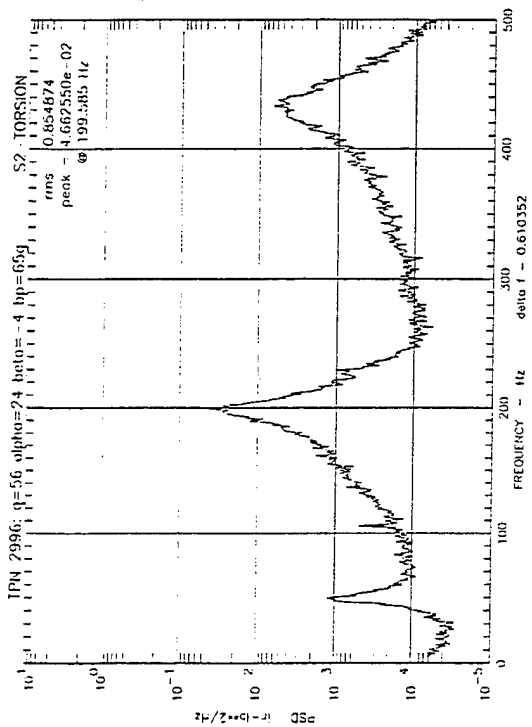
F-15 Tail Buffet Test



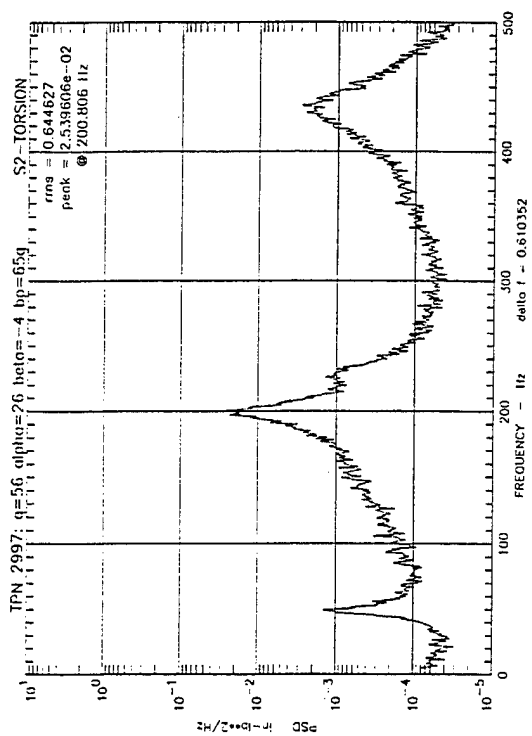
F-15 Tail Buffet Test



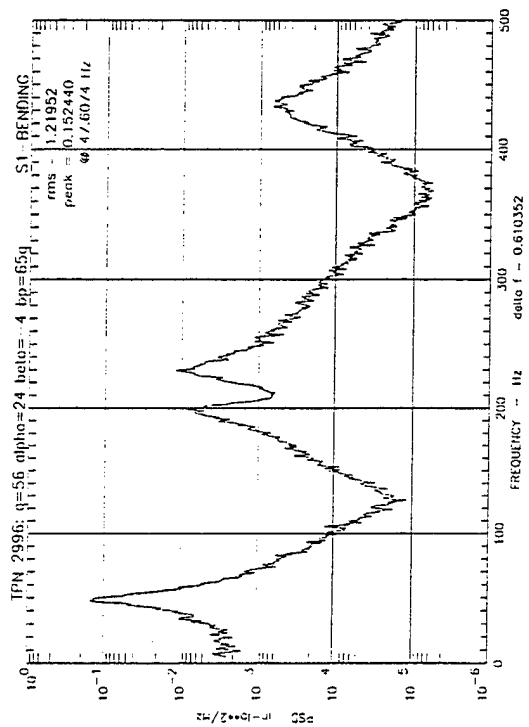
F 15 Tail Buffet Test



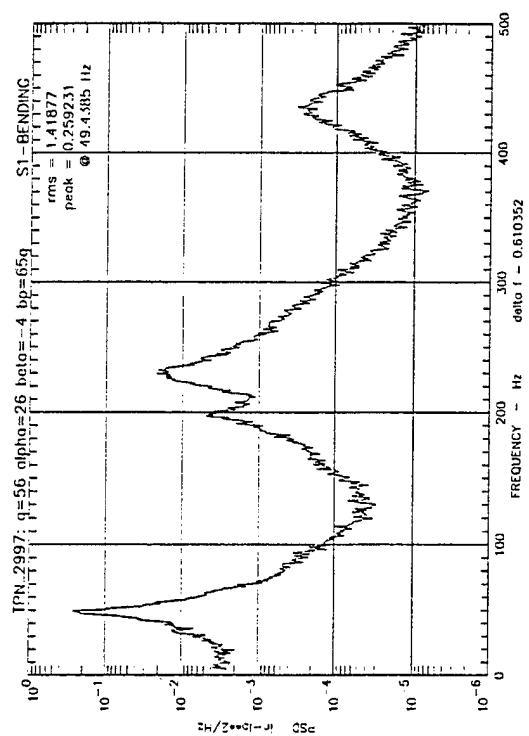
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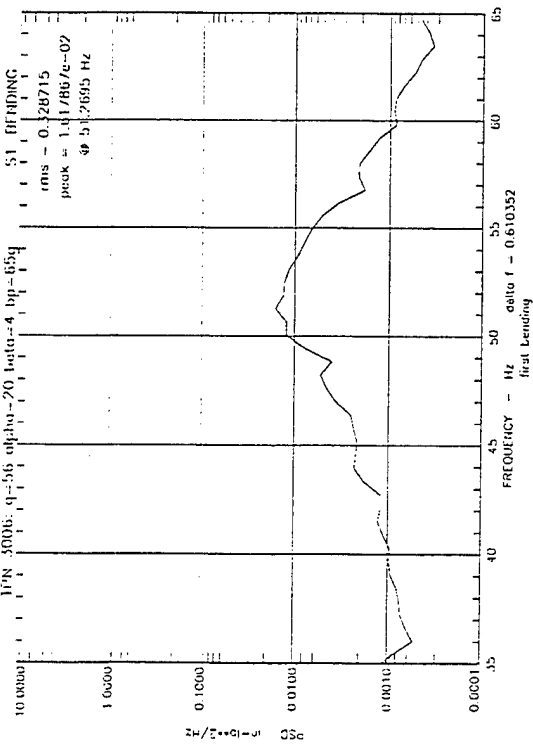
F 15 Tail Buffet Test



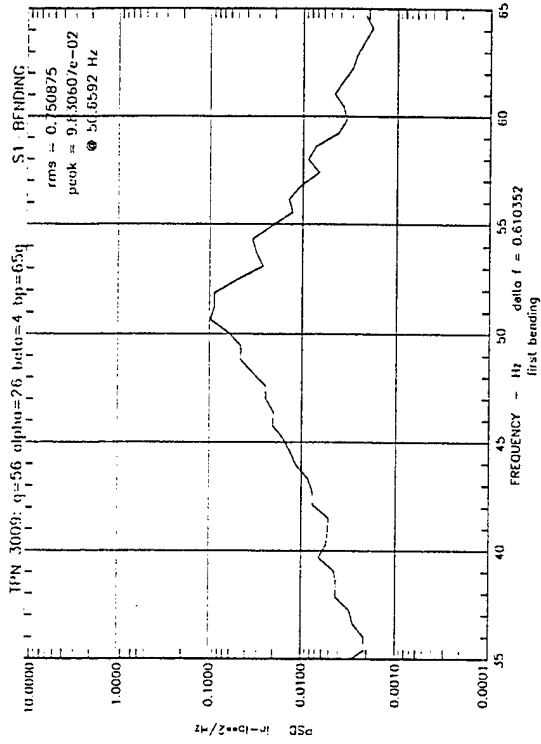
F 15 Tail Buffet Test



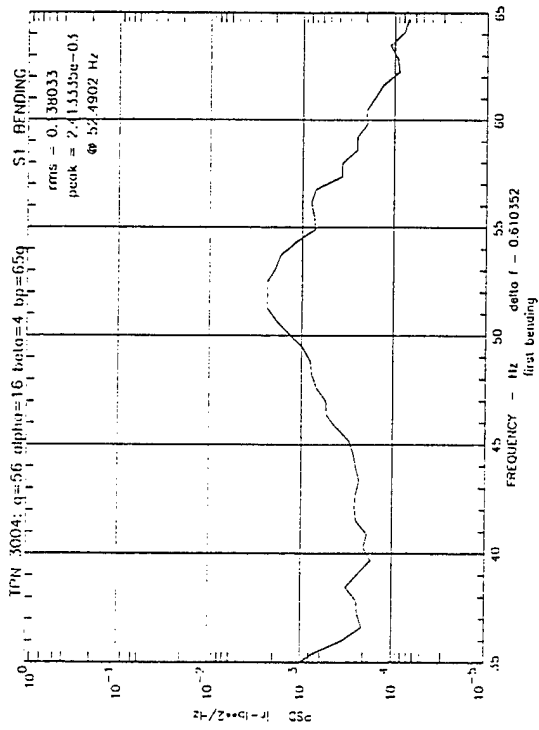
F-15 Tail Buffet Test



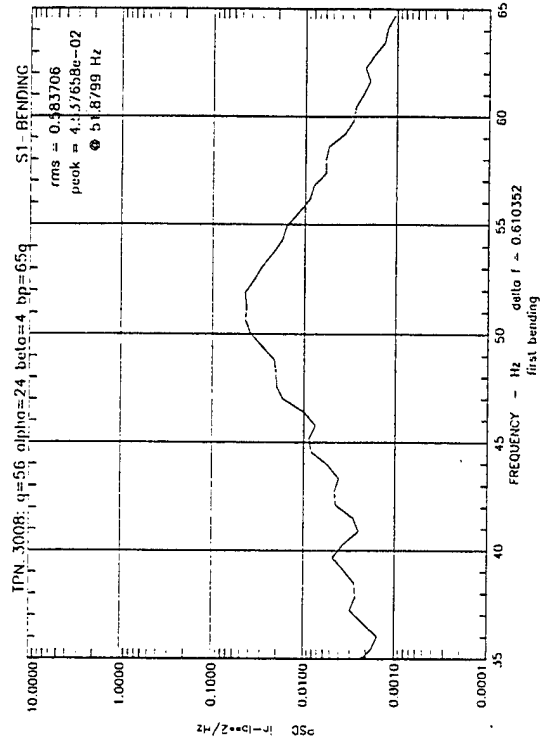
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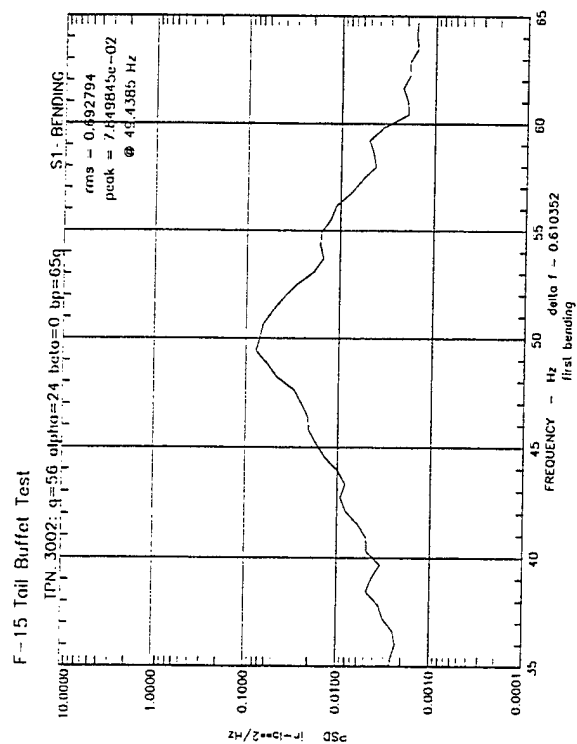
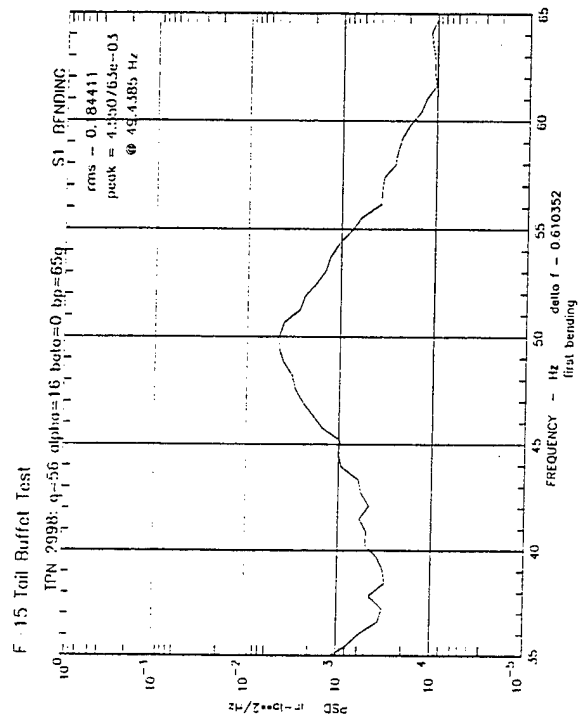
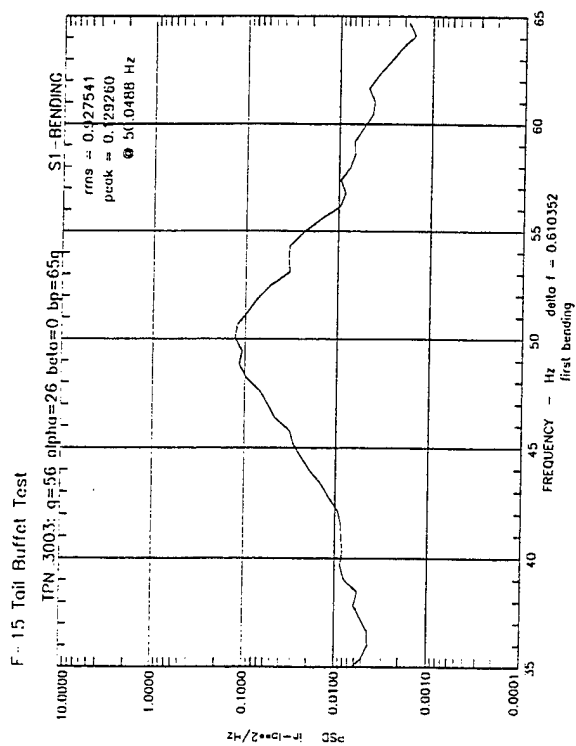
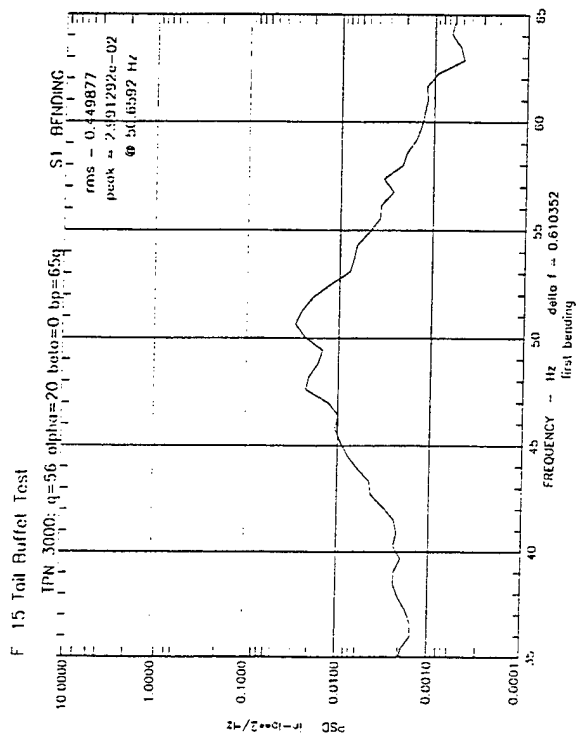


F-15 Tail Buffet Test

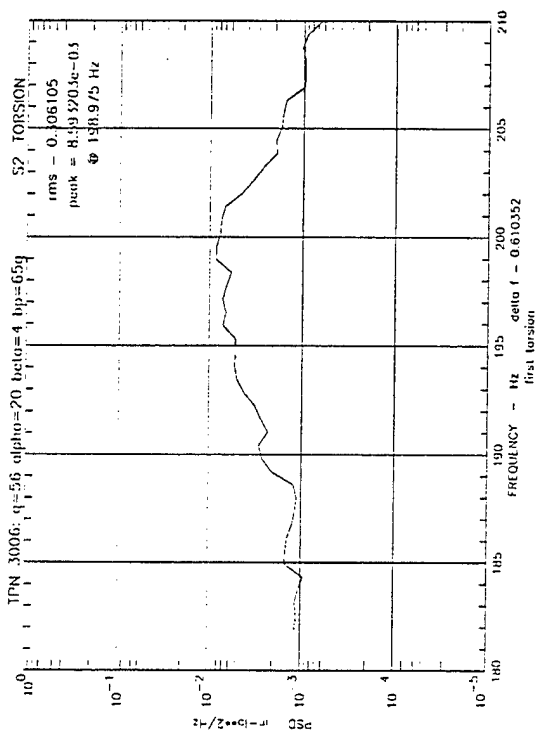


F-15 Tail Buffet Test

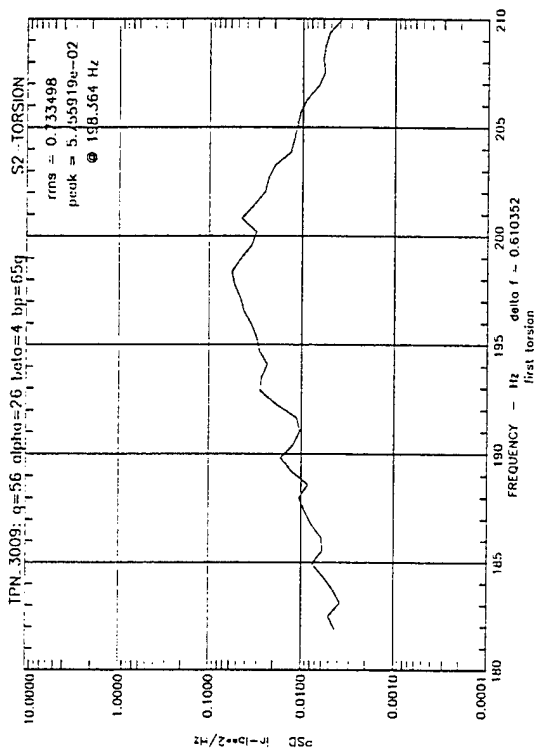




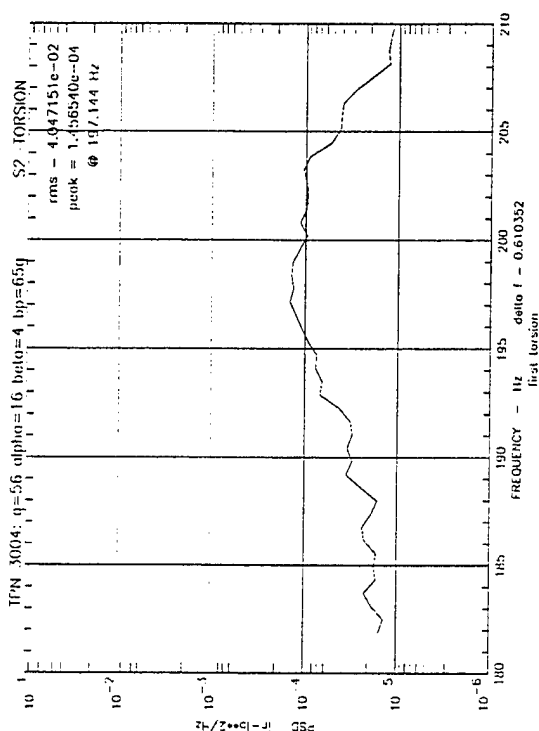
F-15 Tail Buffet Test



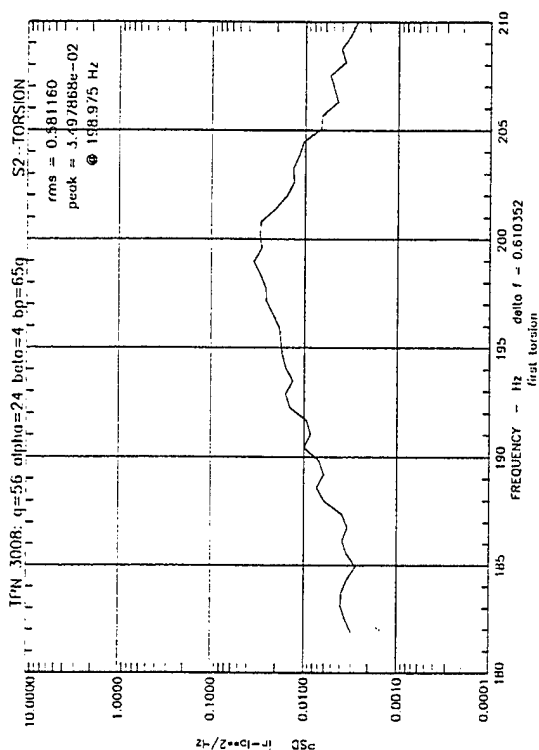
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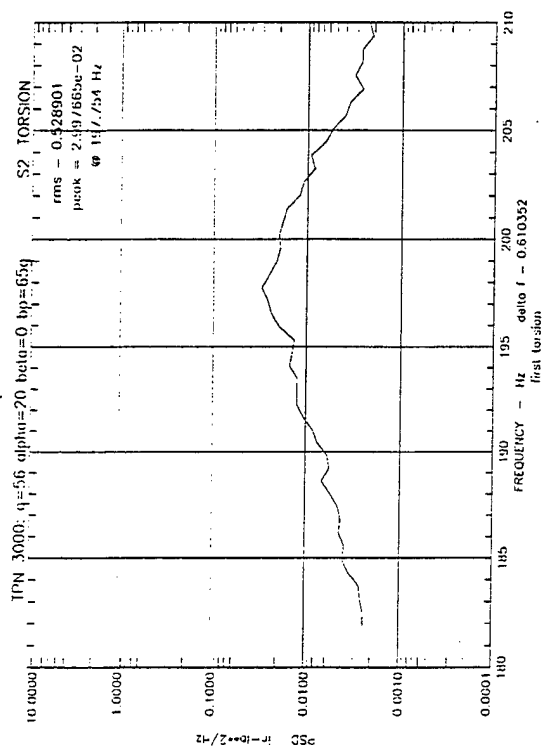
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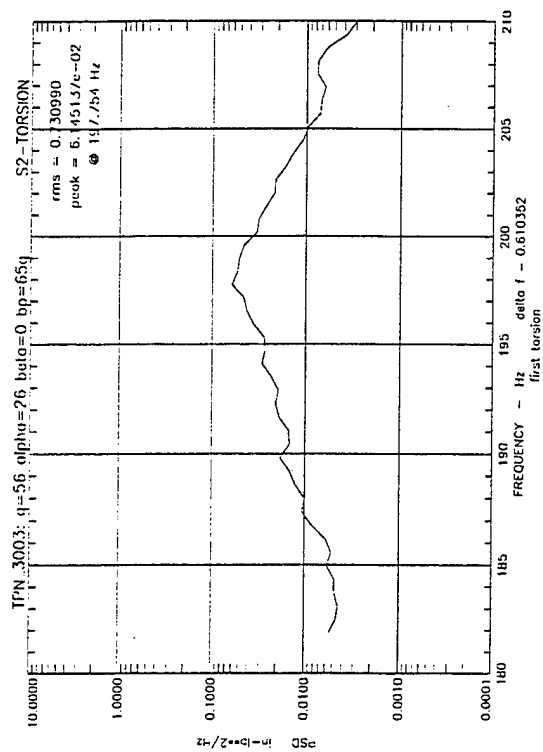
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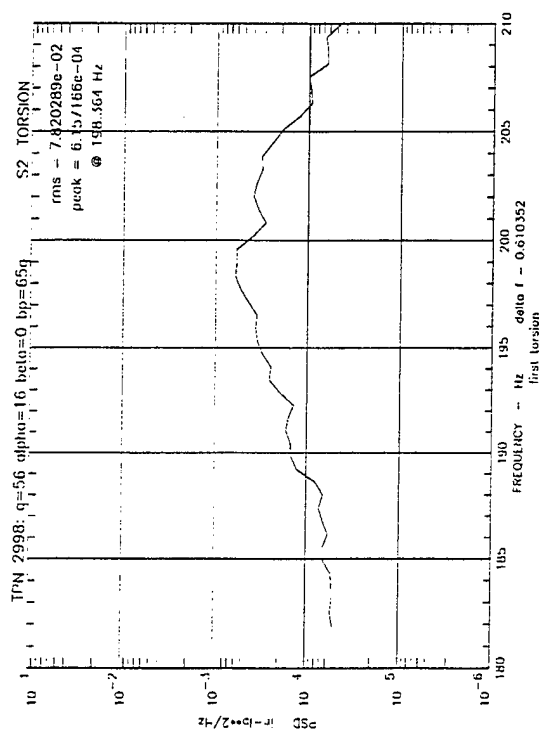
F-15 Tail Buffet Test



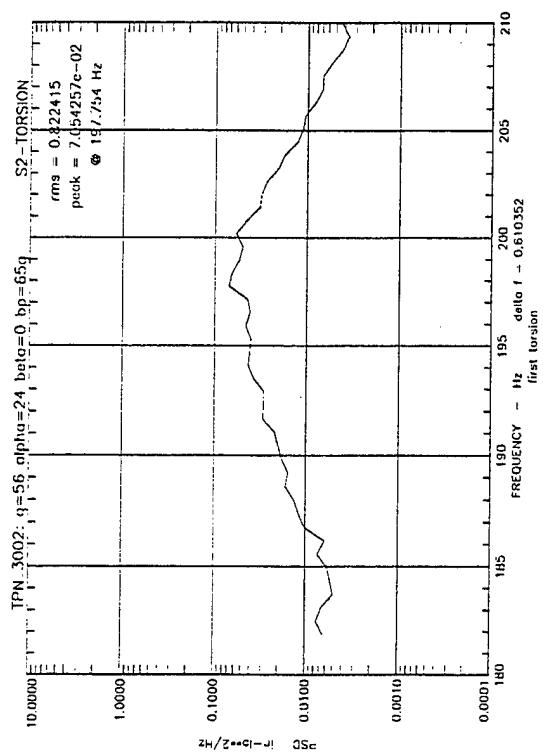
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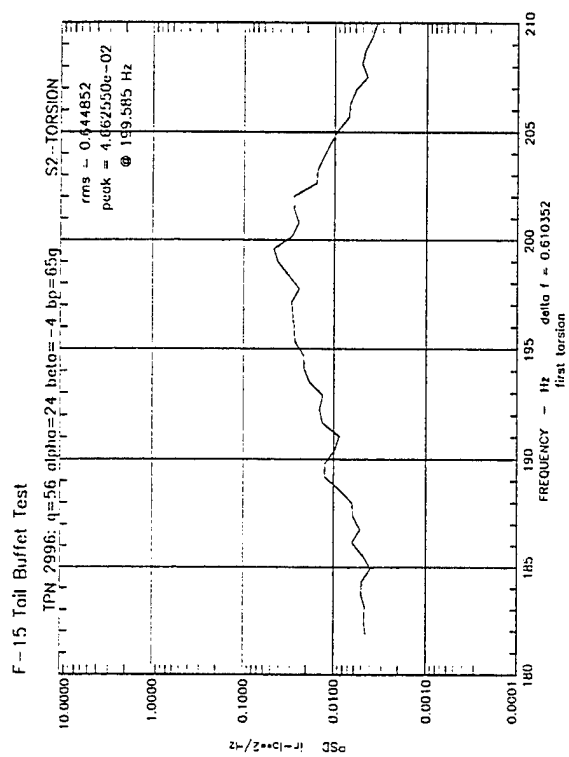
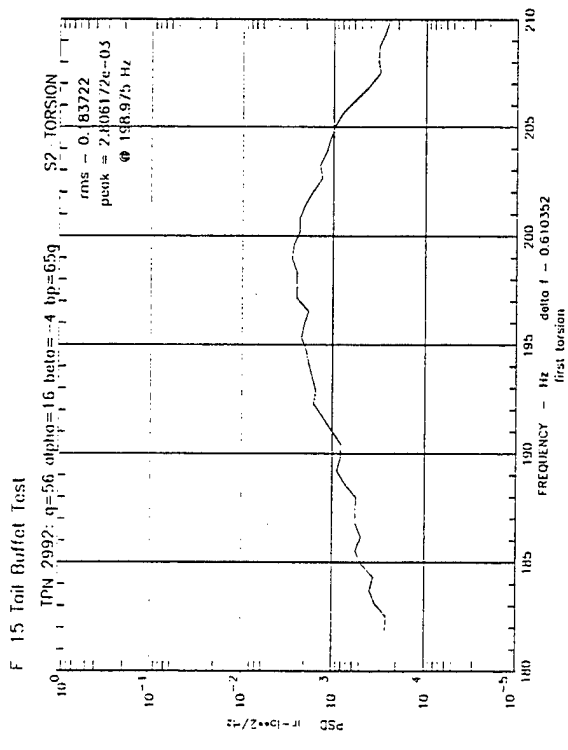
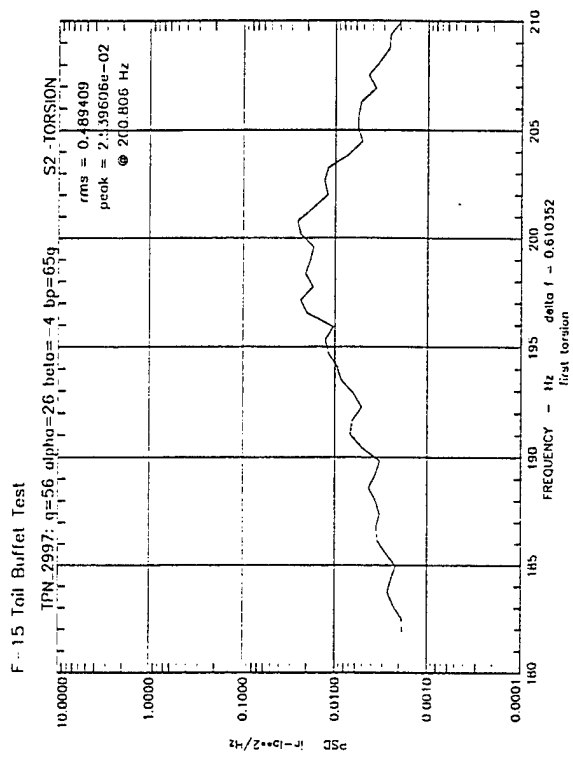
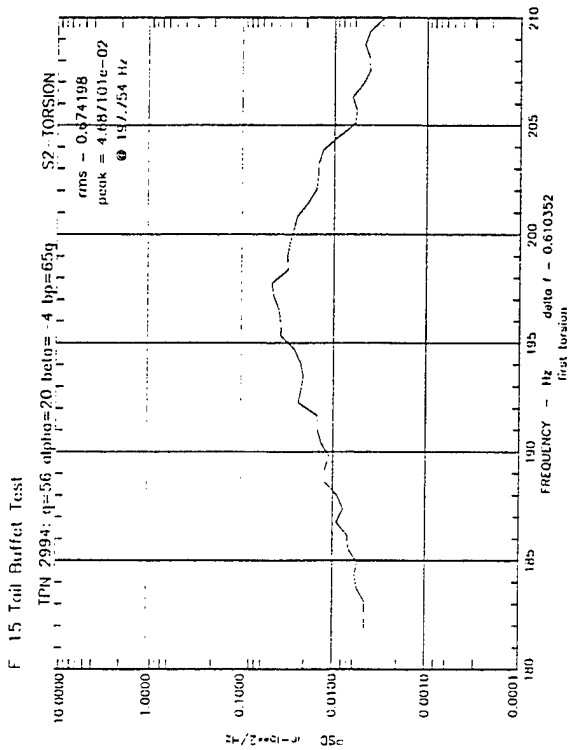


F-15 Tail Buffet Test

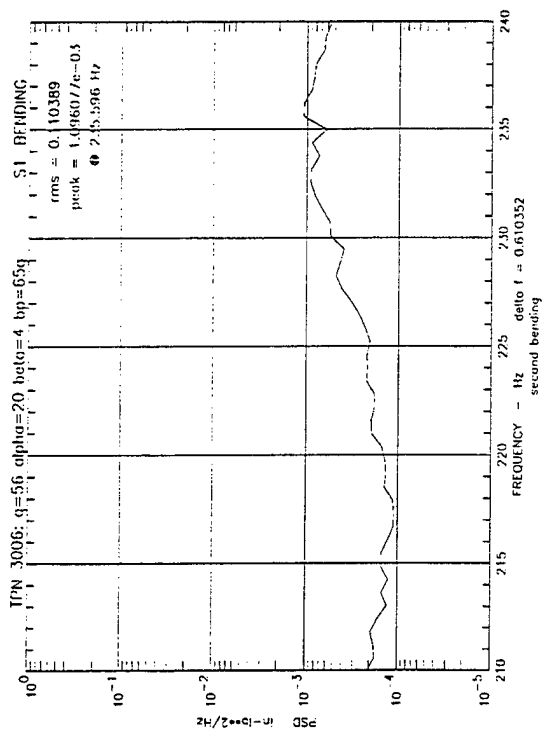


F-15 Tail Buffet Test

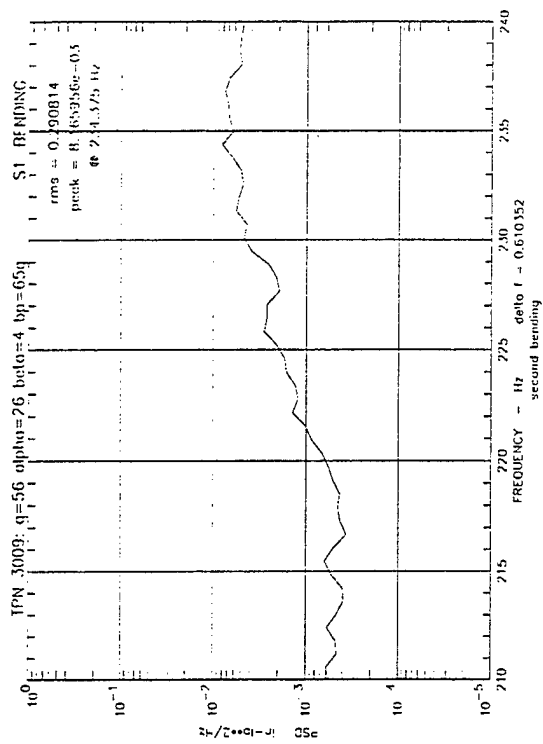




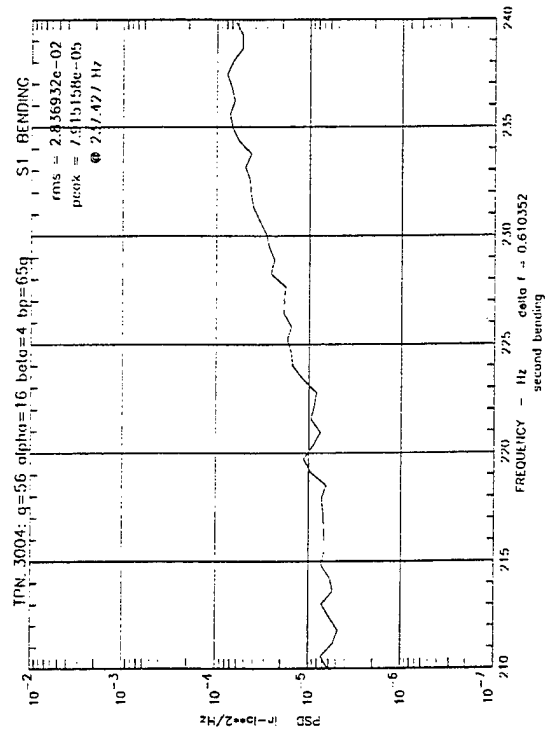
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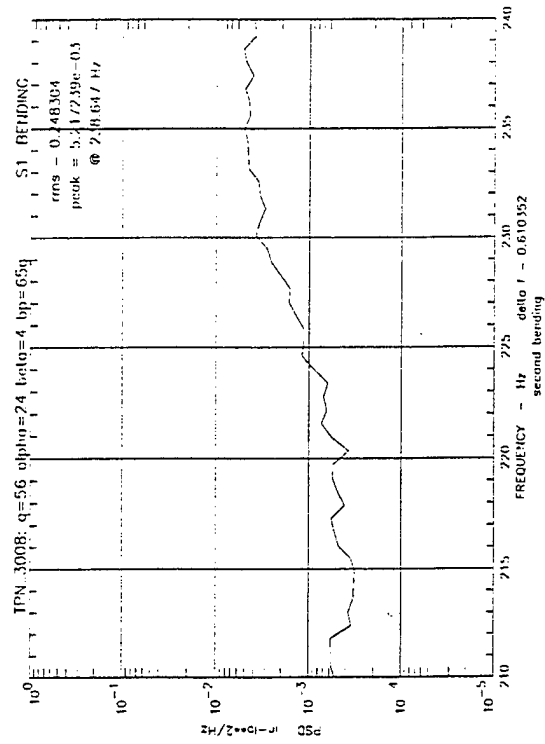
F-15 Tail Buffet Test



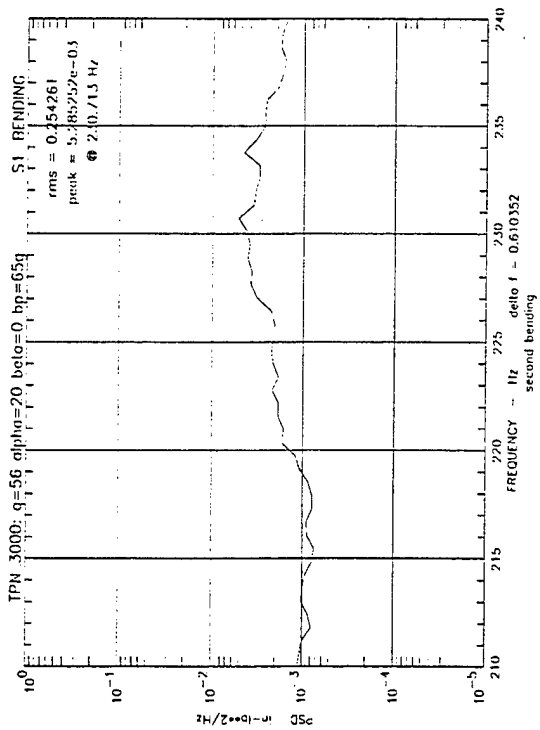
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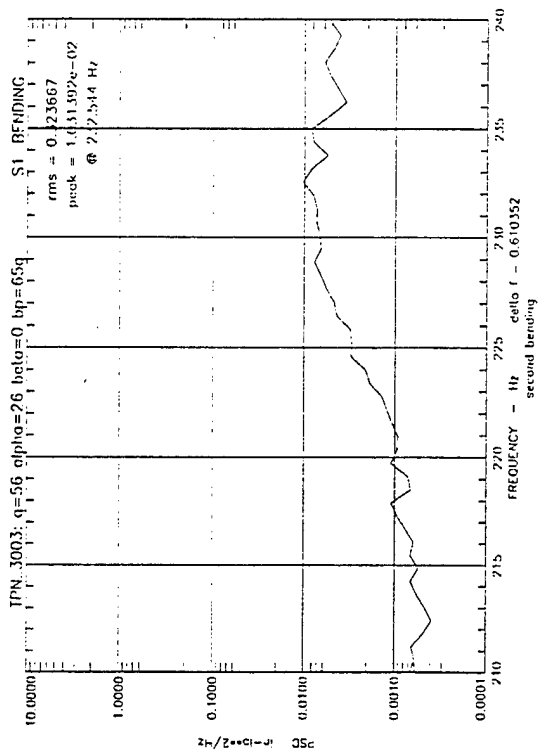
F-15 Tail Buffet Test



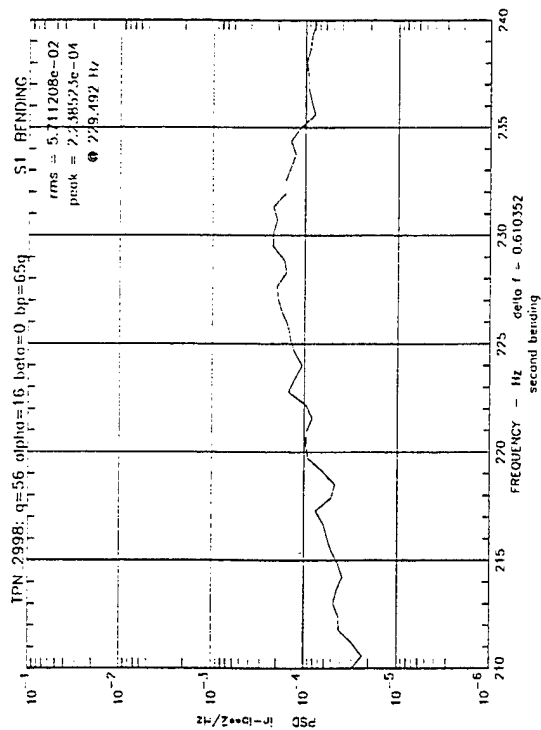
F-15 Tail Buffet Test



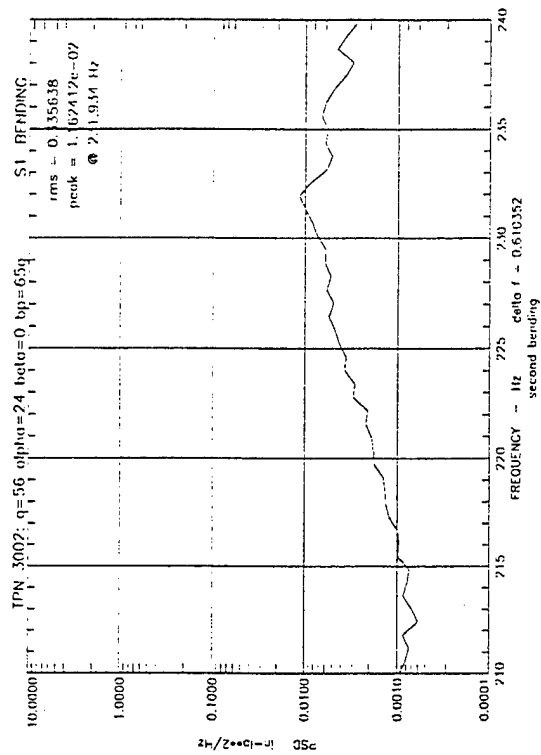
F-15 Tail Buffet Test



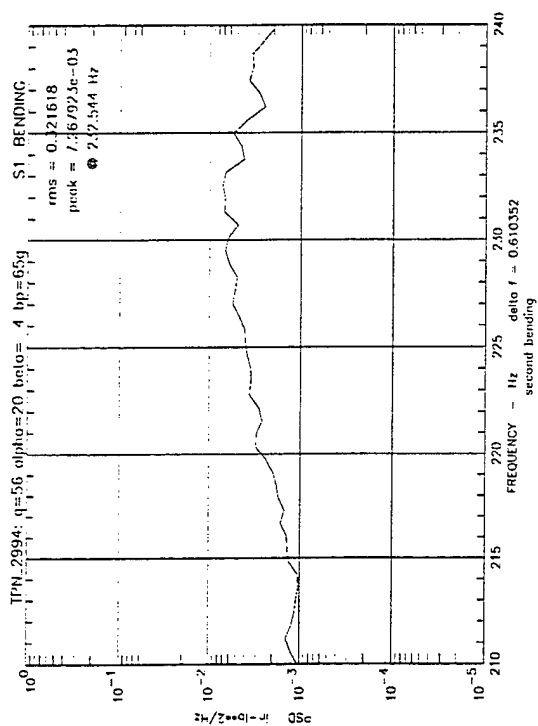
F-15 Tail Buffet Test



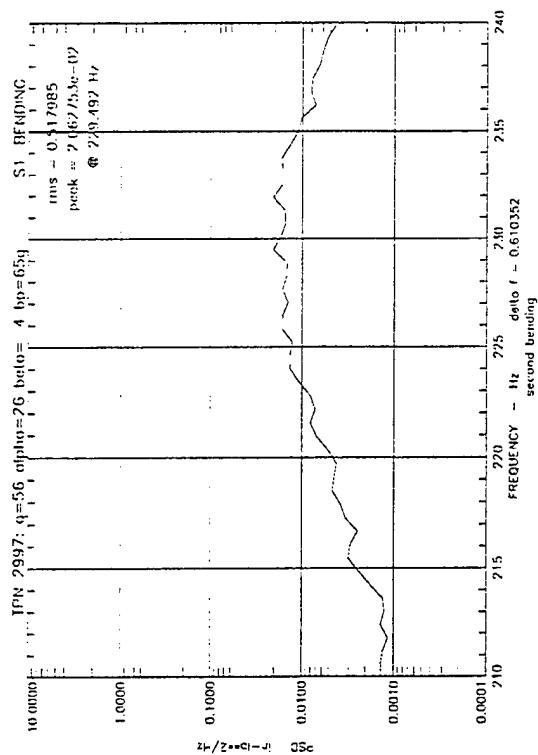
F-15 Tail Buffet Test



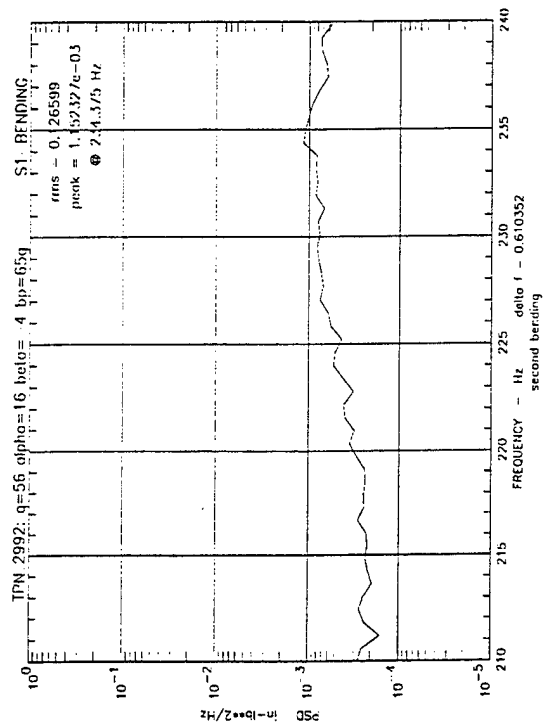
F-15 Tail Buffet Test



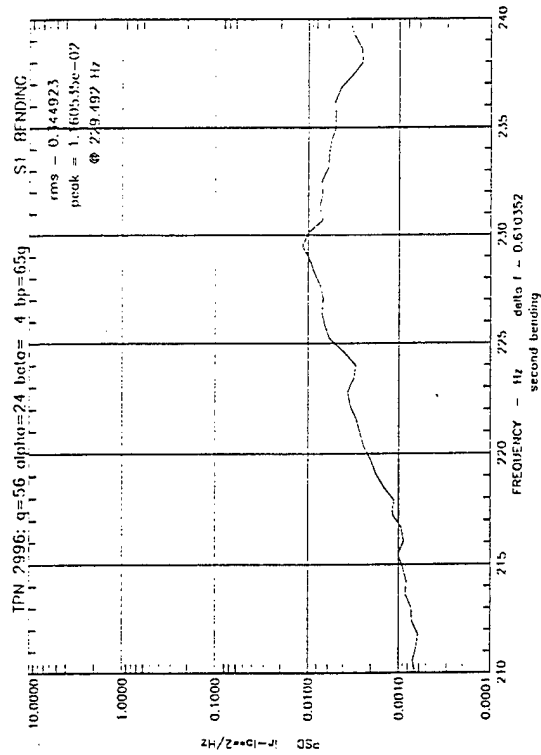
F-15 Tail Buffet Test



F-15 Tail Buffet Test



F-15 Tail Buffet Test



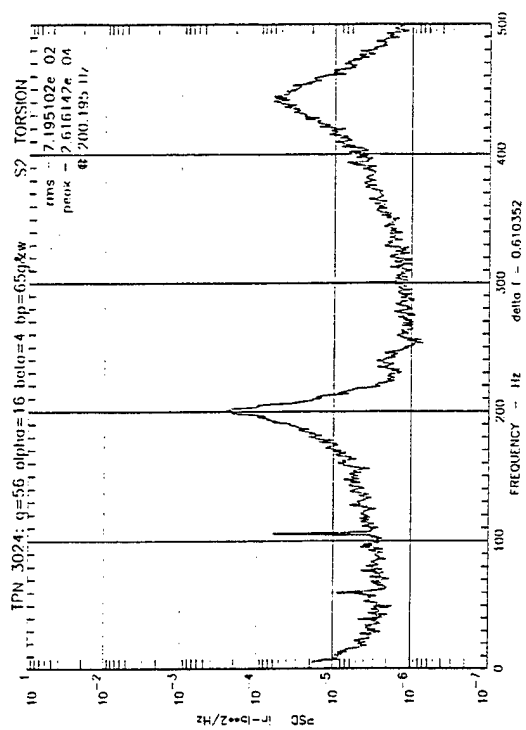
**FLEXIBLE TAIL RESPONSE
DIMENSIONAL BENDING AND TORSION**

PSD GRAPHS

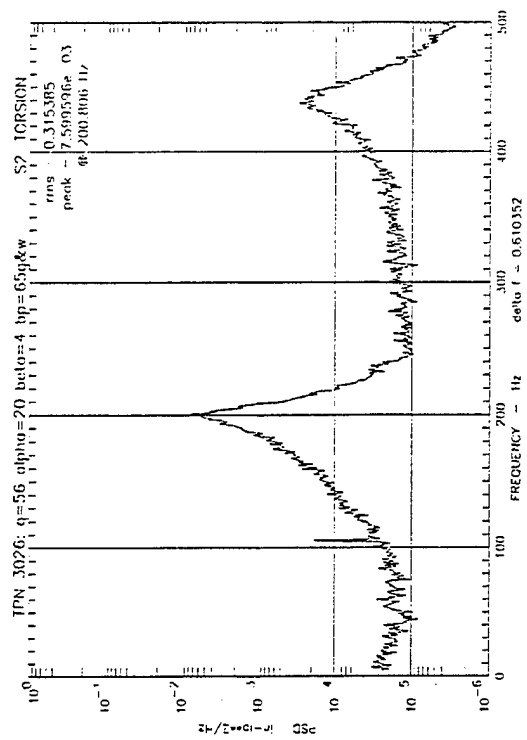
Q= 56 PSF

2.1.1.3 GBP = 65 psi, WBP = 65 psi BETA= 0, + 4, - 4, ALPHA= 0.....32 Deg

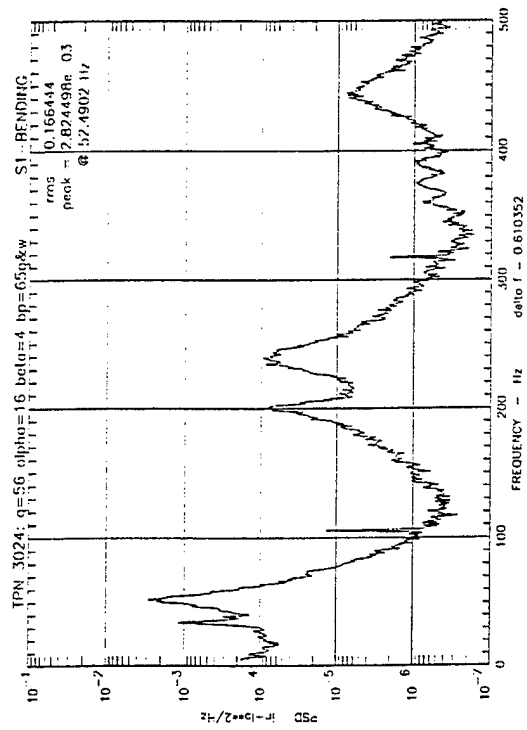
F-15 Tail Buffet Test



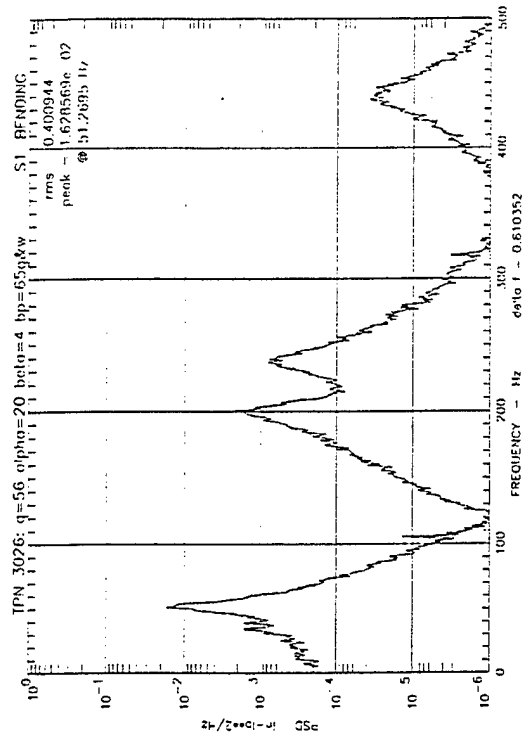
F-15 Tail Buffet Test

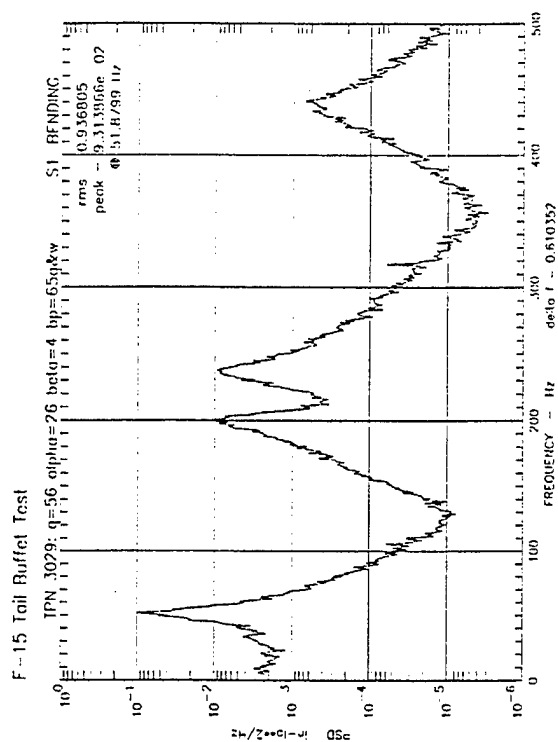
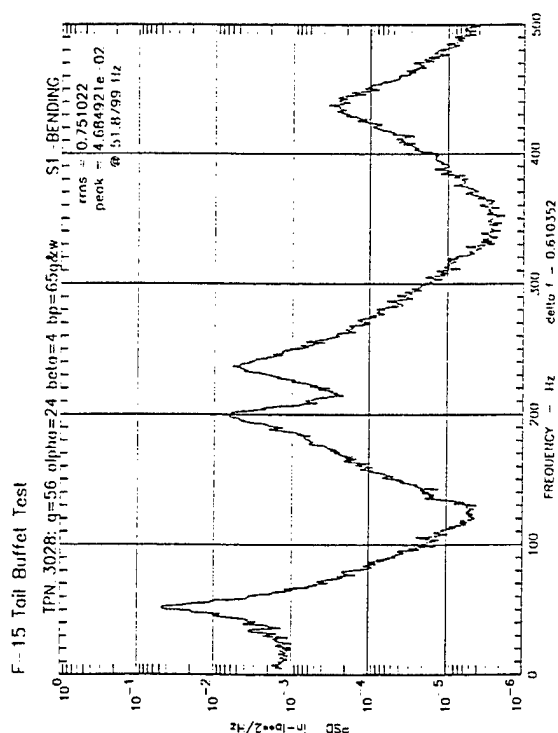
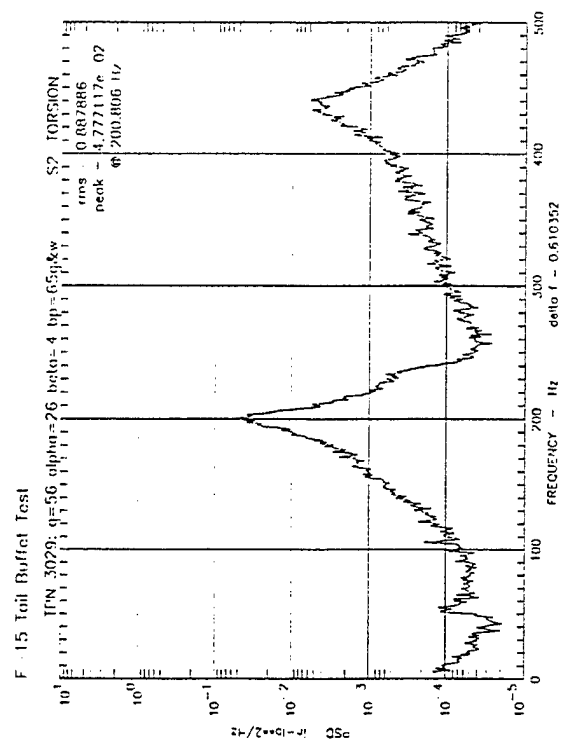
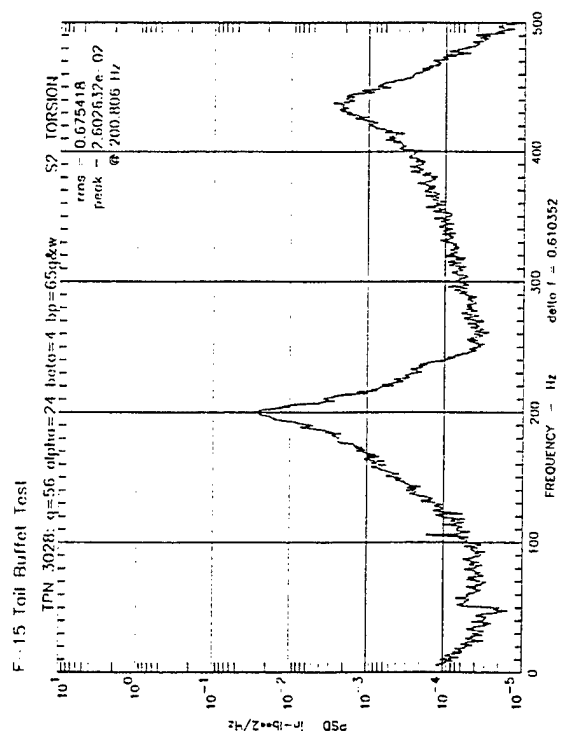


F-15 Tail Buffet Test

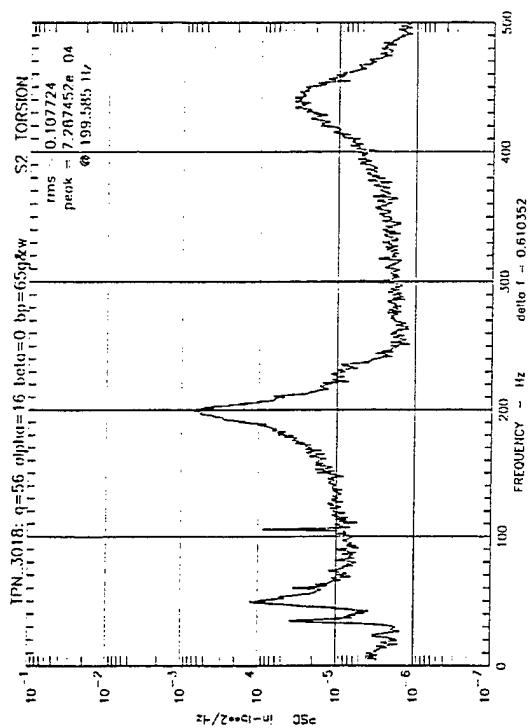


F-15 Tail Buffet Test

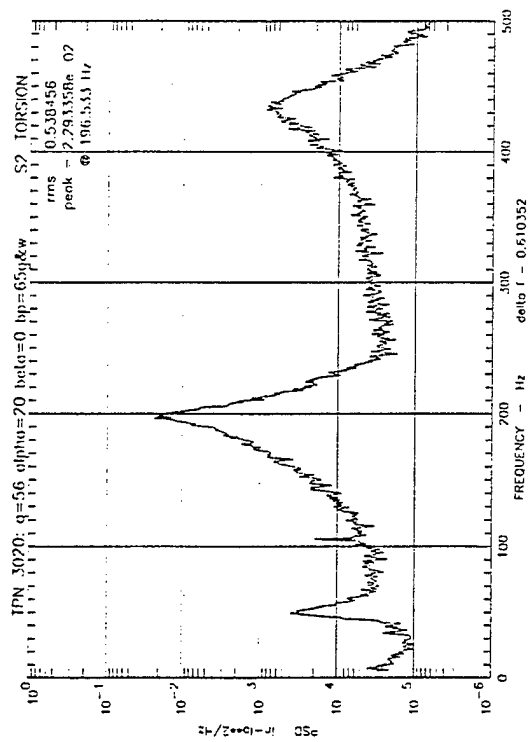




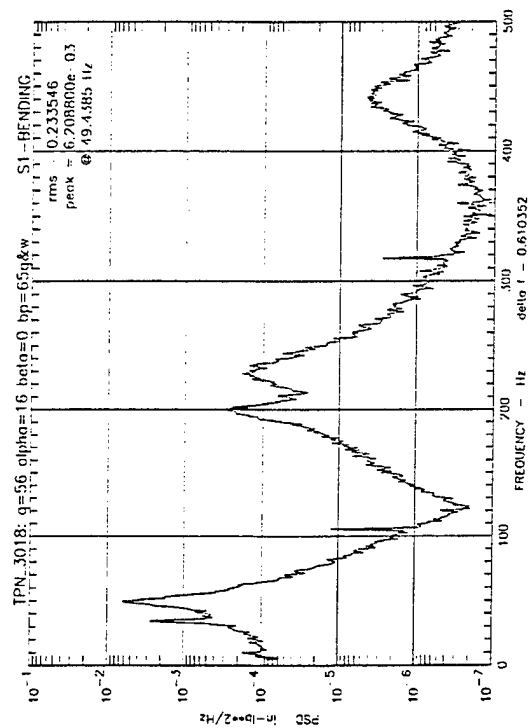
F-15 Tail Buffet Test



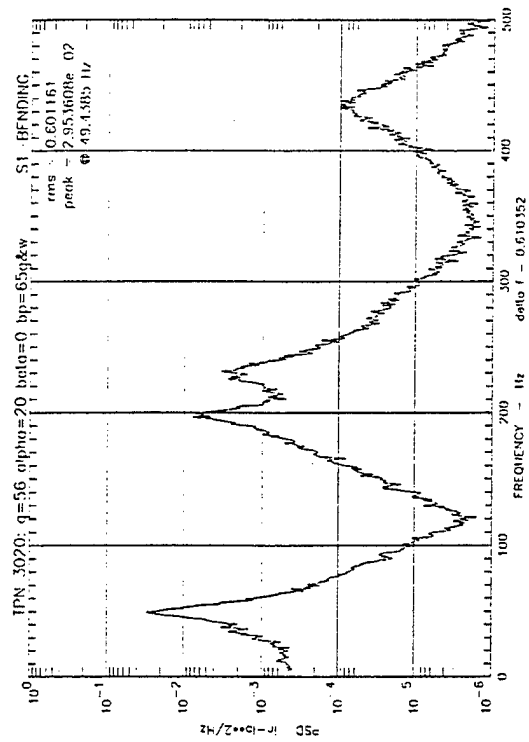
F-15 Tail Buffet Test



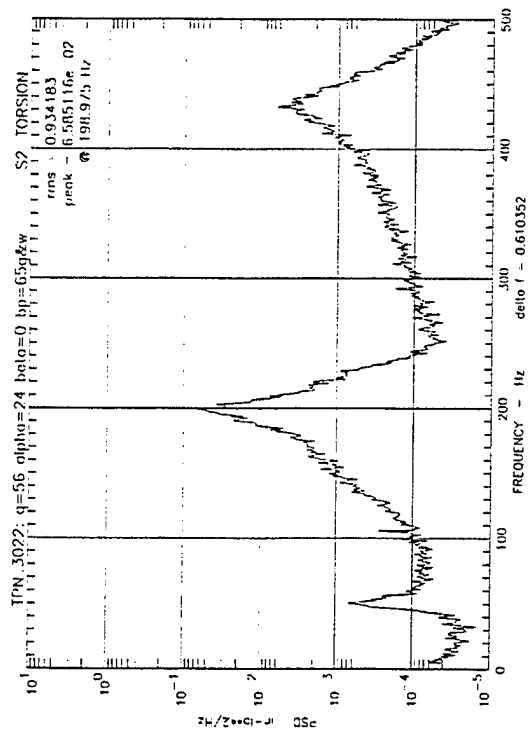
F-15 Tail Buffet Test



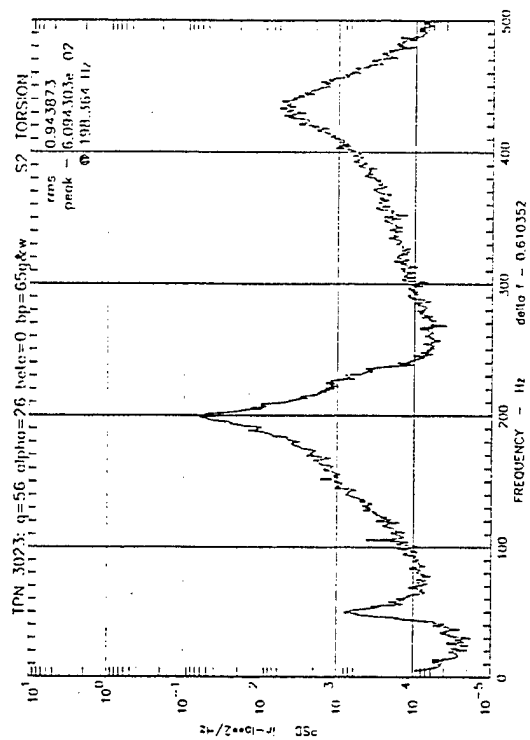
F-15 Tail Buffet Test



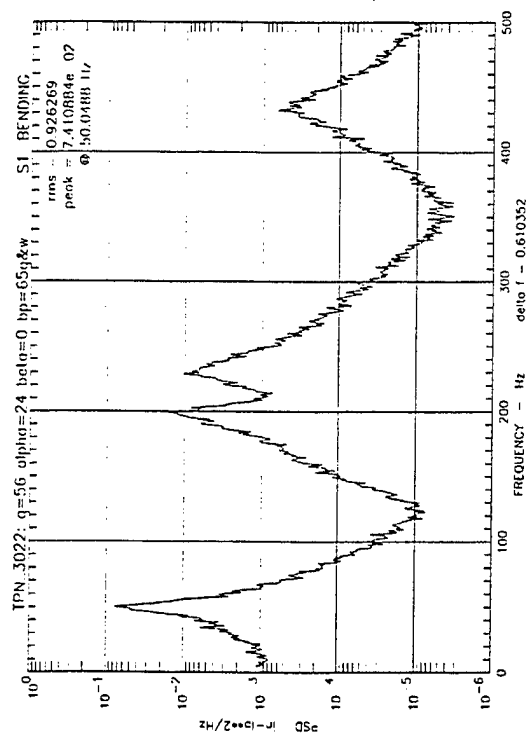
F-15 Tail Buffet Test



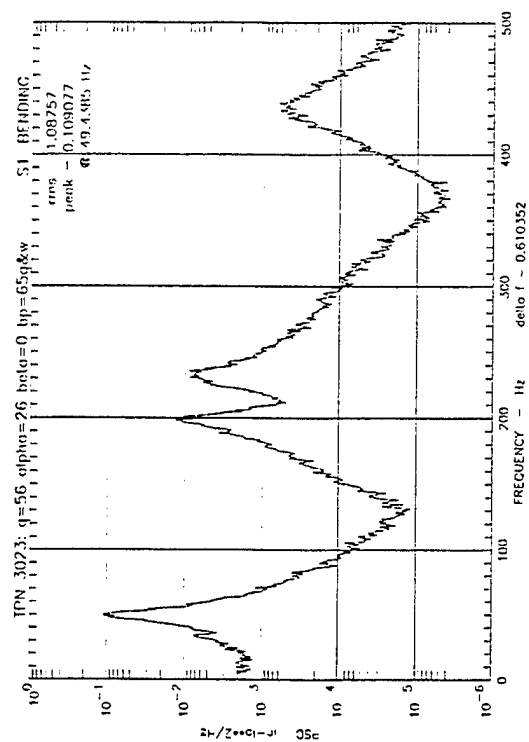
F-15 Tail Buffet Test



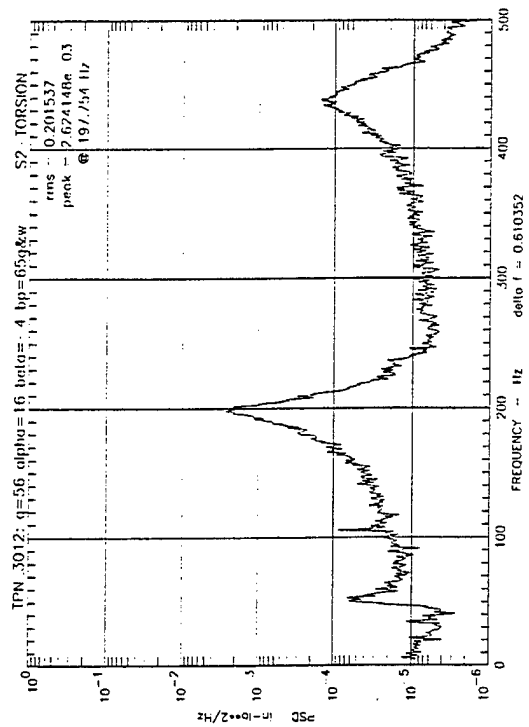
F-15 Tail Buffet Test



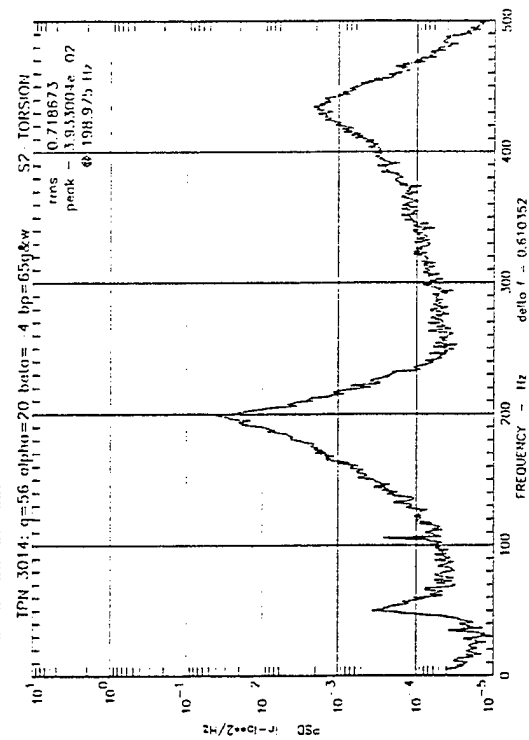
F-15 Tail Buffet Test



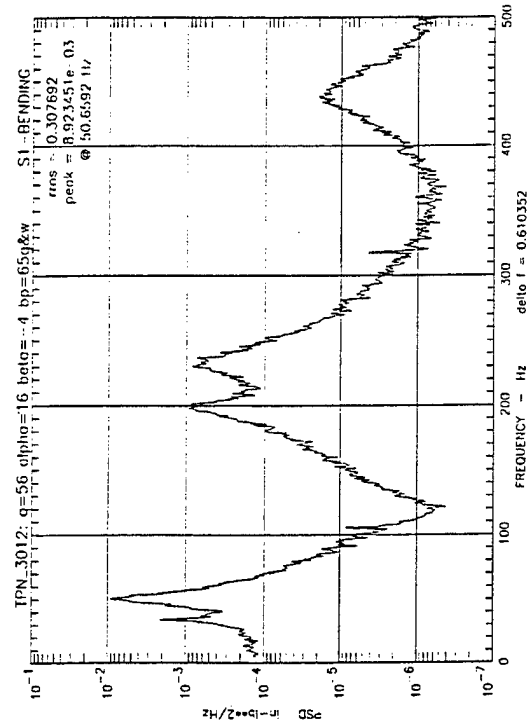
F-15 Tail Buffet Test



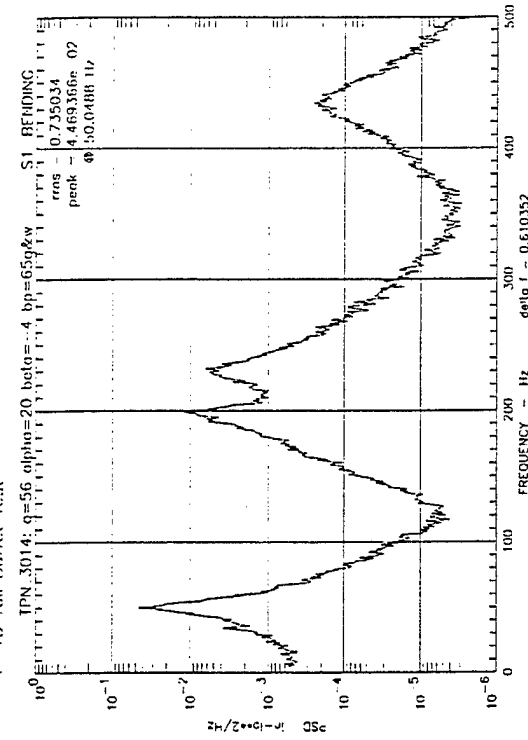
F-15 Tail Buffet Test



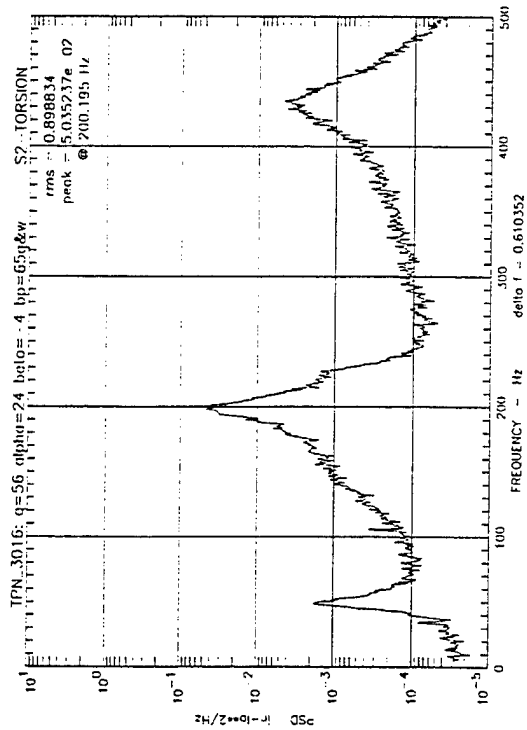
F-15 Tail Buffet Test



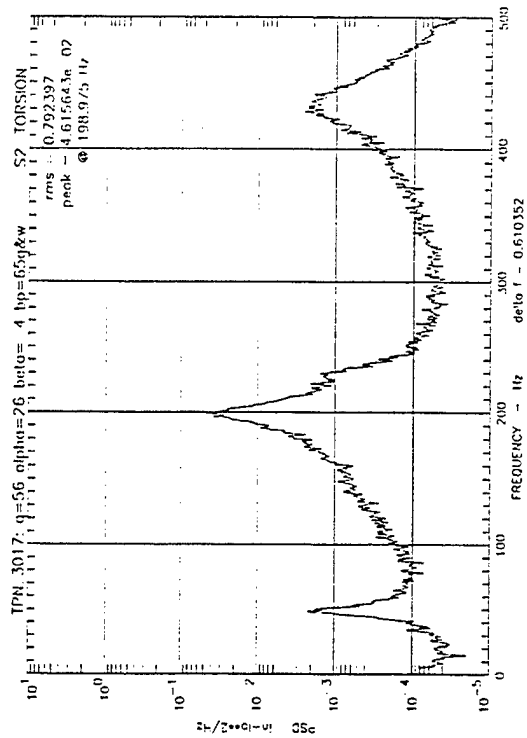
F-15 Tail Buffet Test



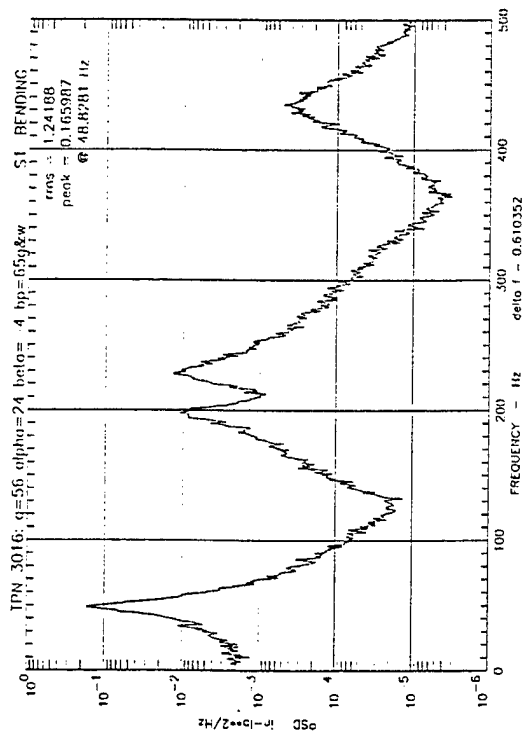
F-15 Tail Buffet Test



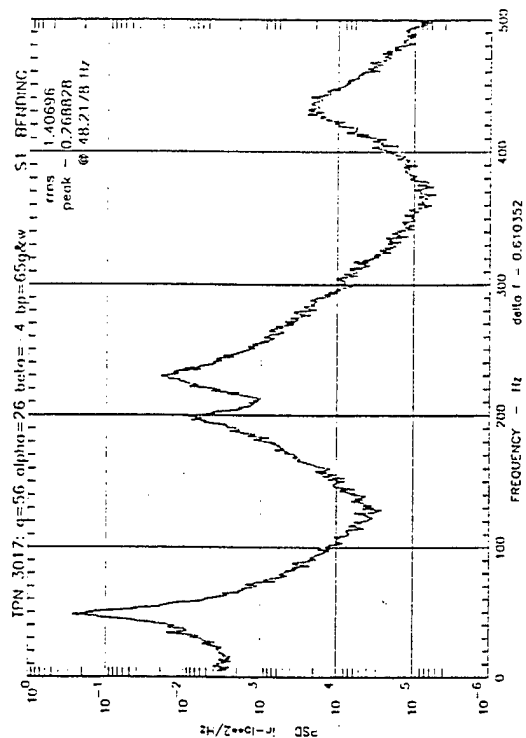
F-15 Tail Buffet Test



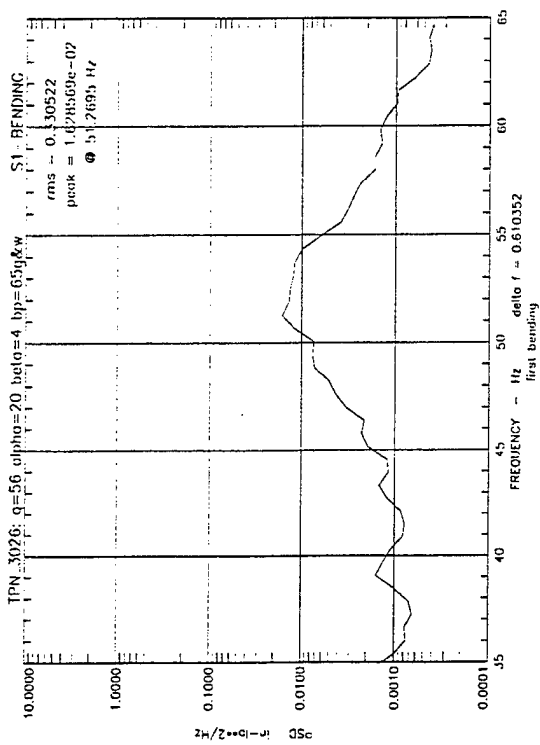
F-15 Tail Buffet Test



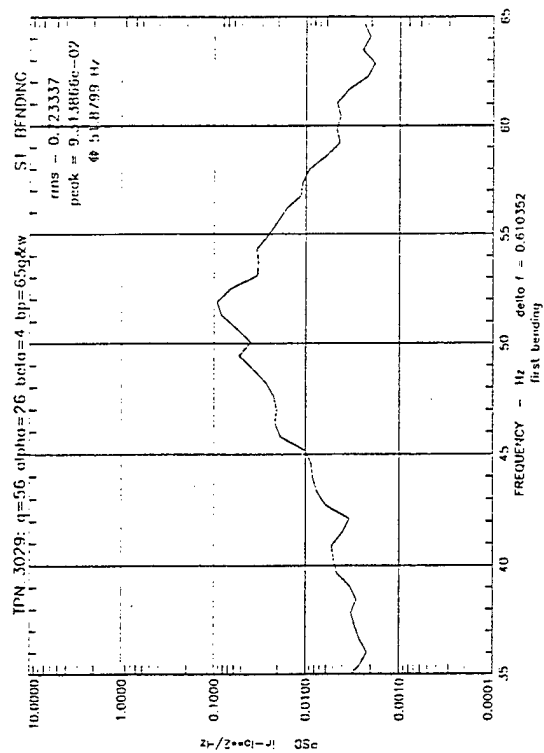
F-15 Tail Buffet Test



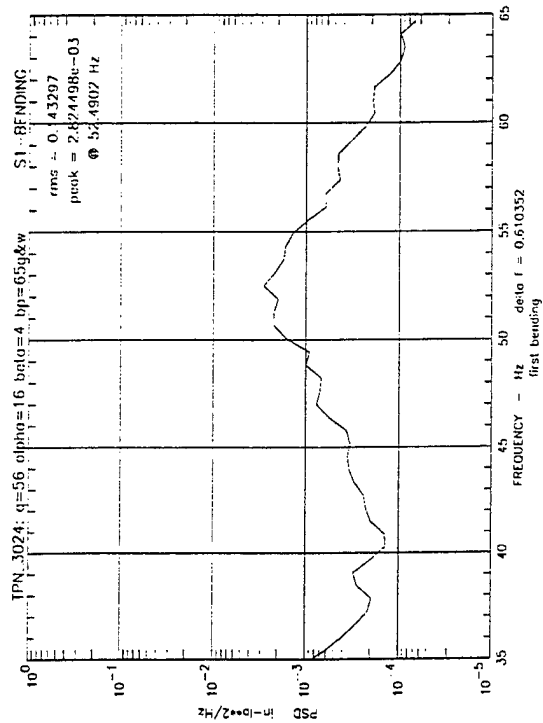
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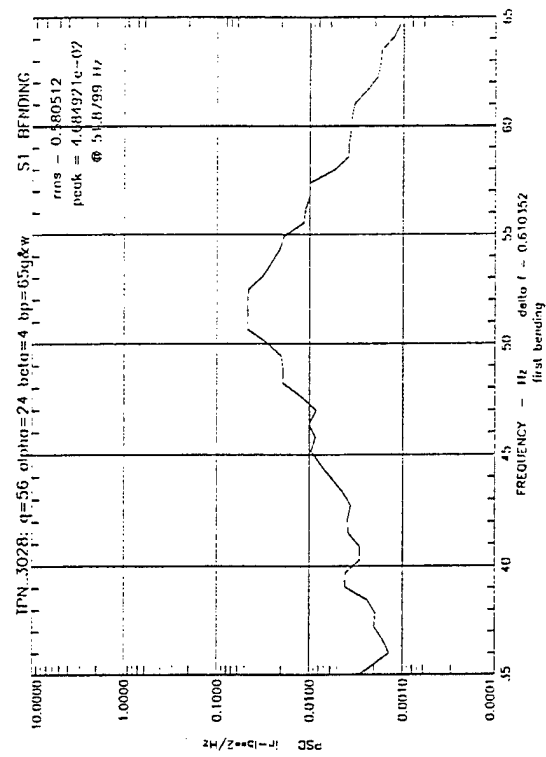
F-15 Tail Buffet Test



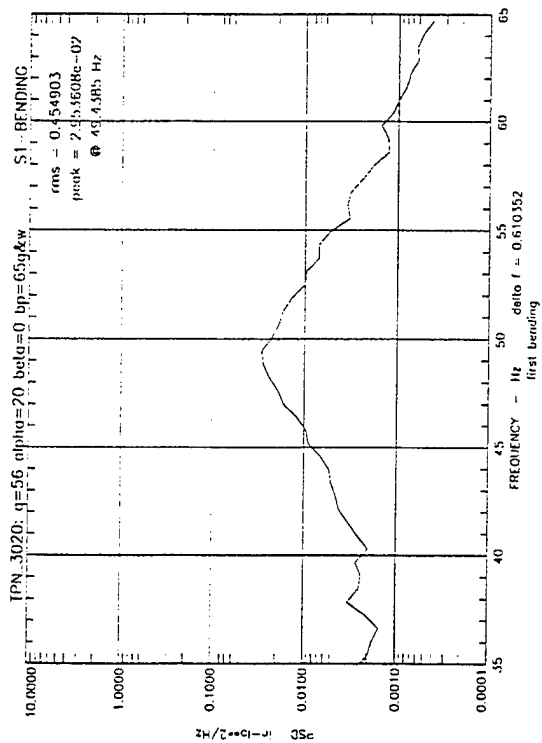
F-15 Tail Buffet Test



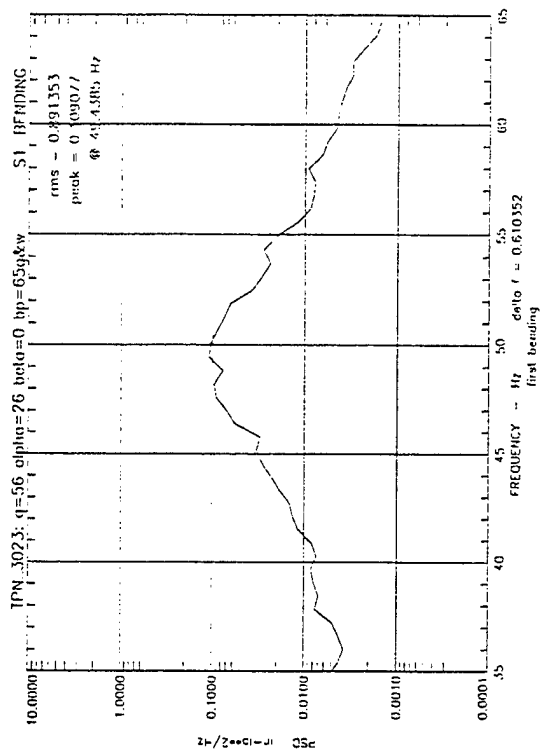
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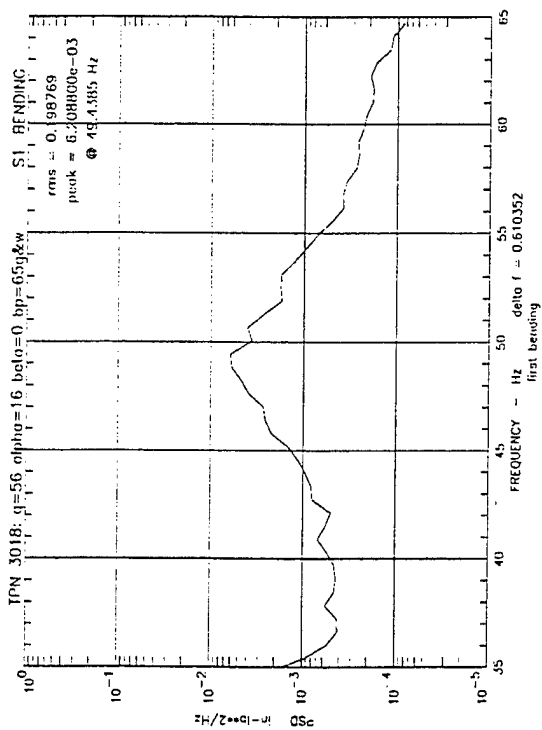
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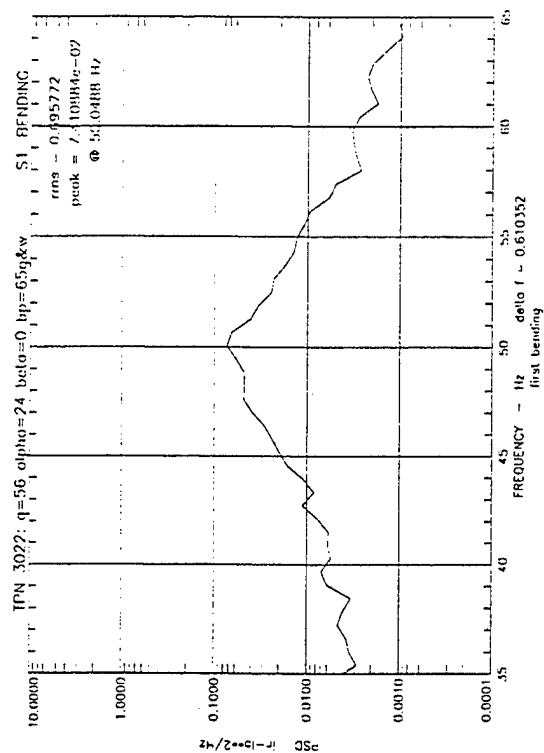
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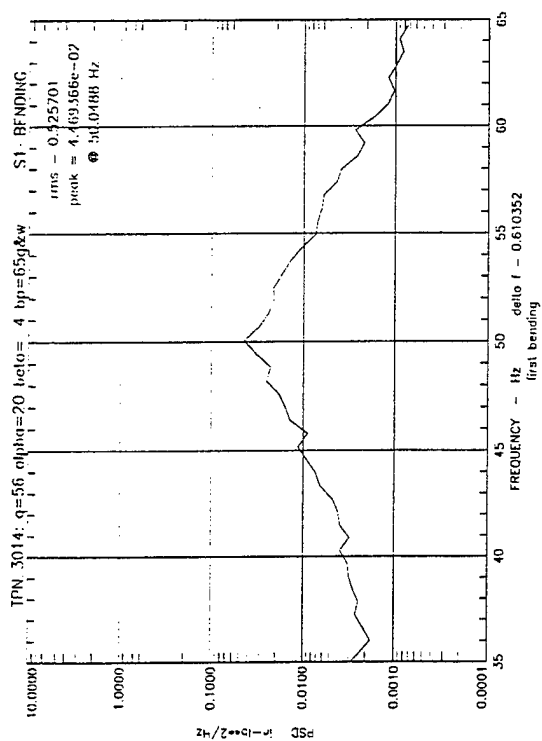
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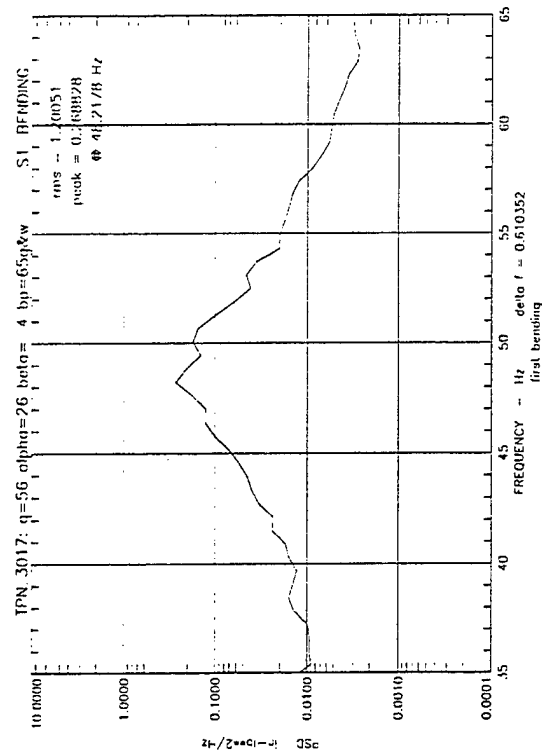
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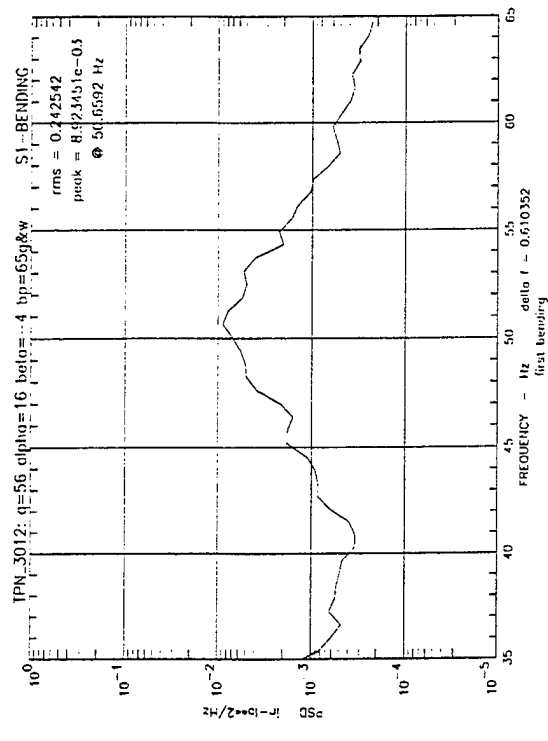
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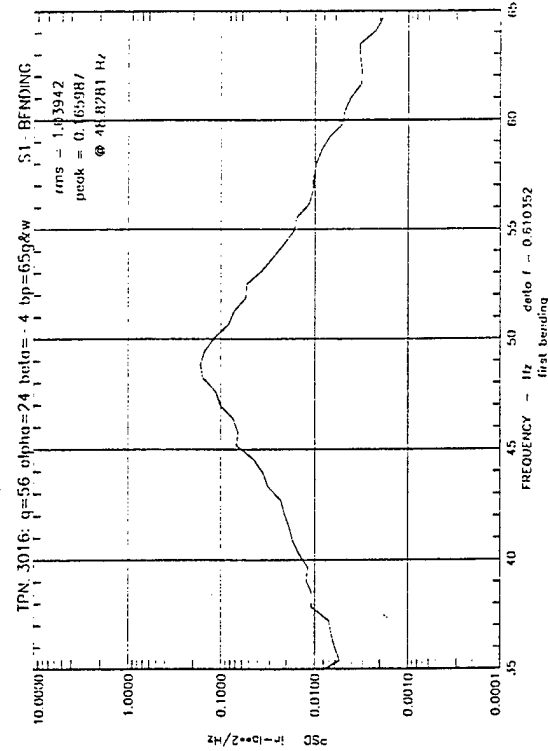
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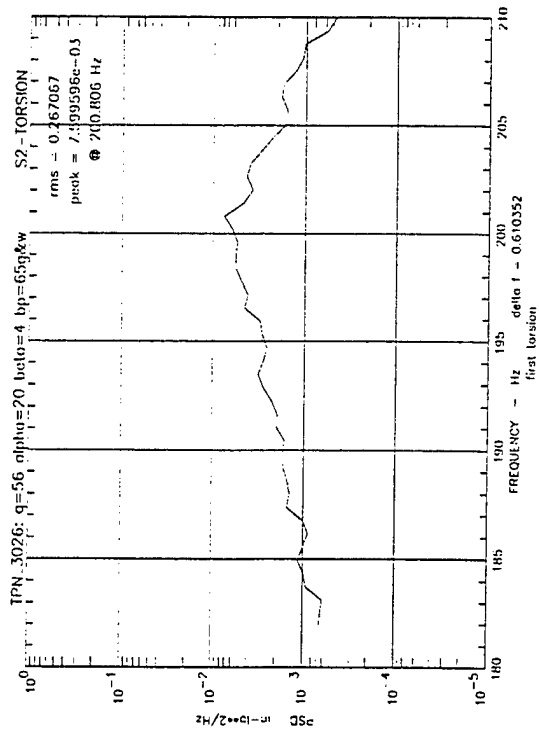
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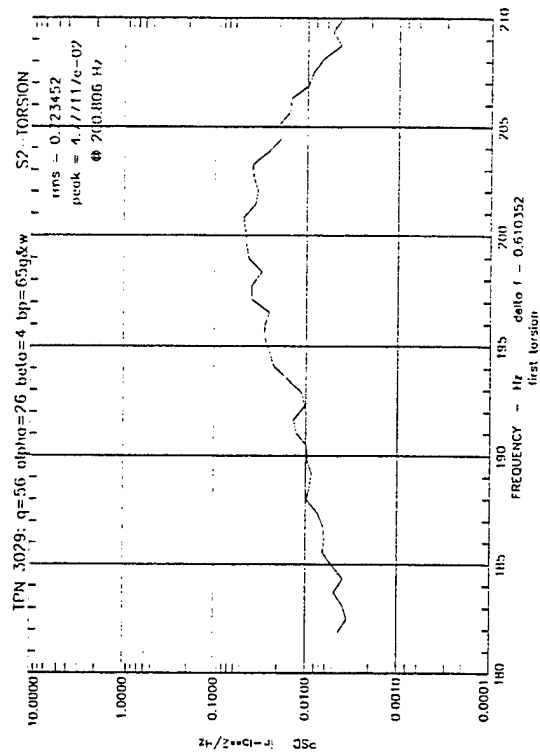
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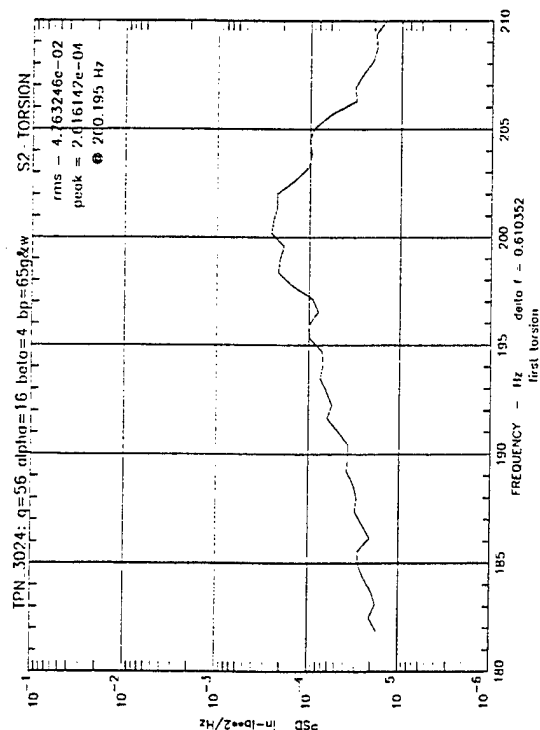
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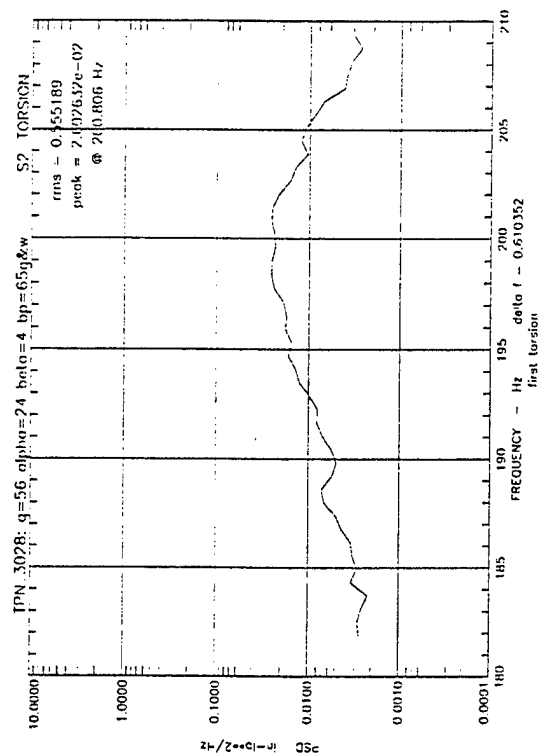
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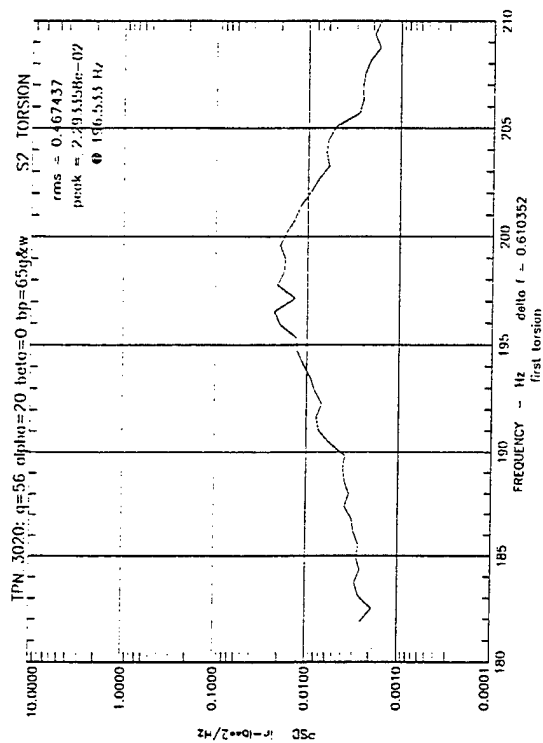
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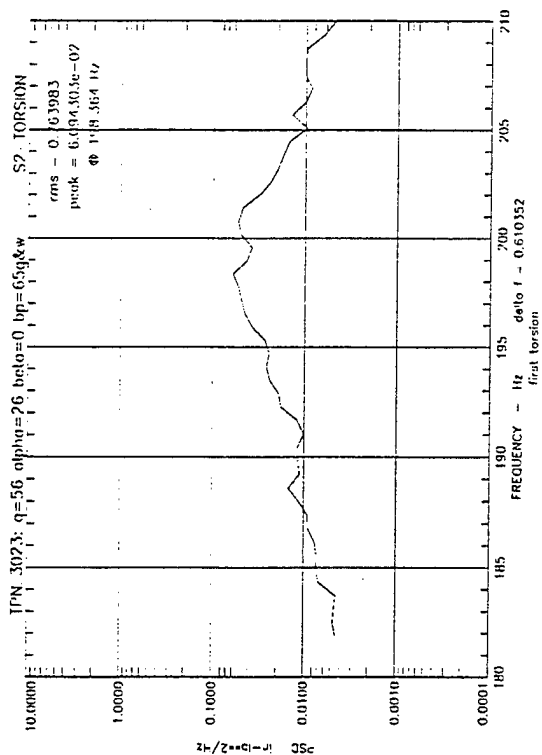
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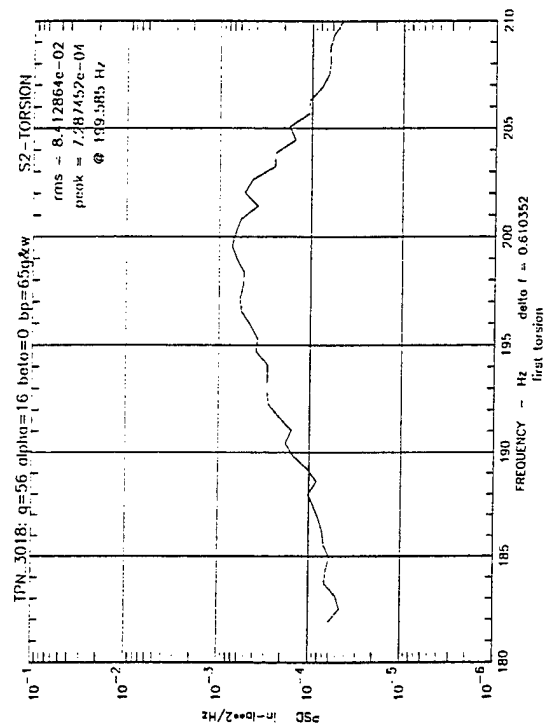
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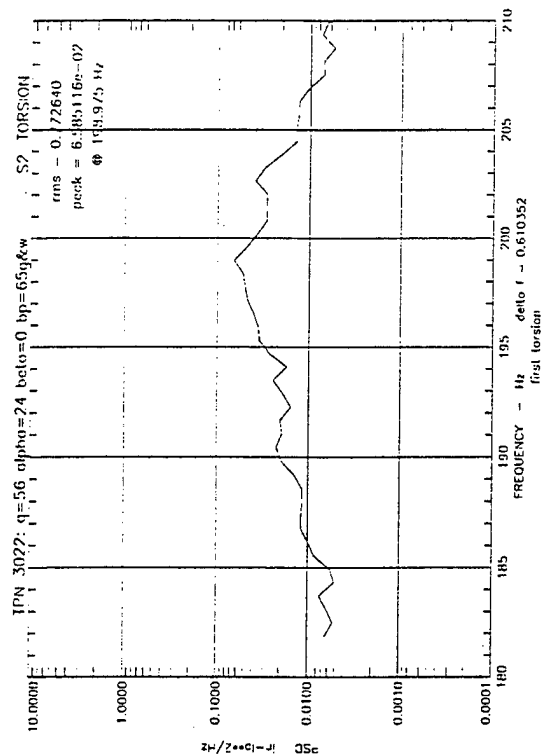
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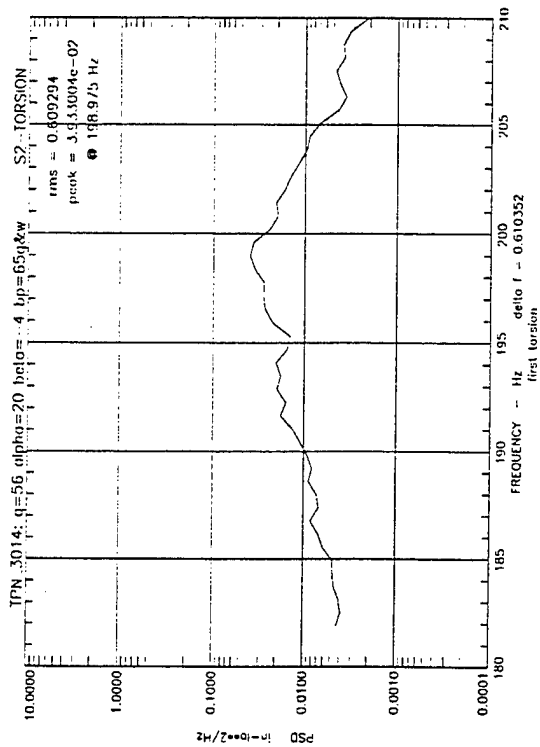
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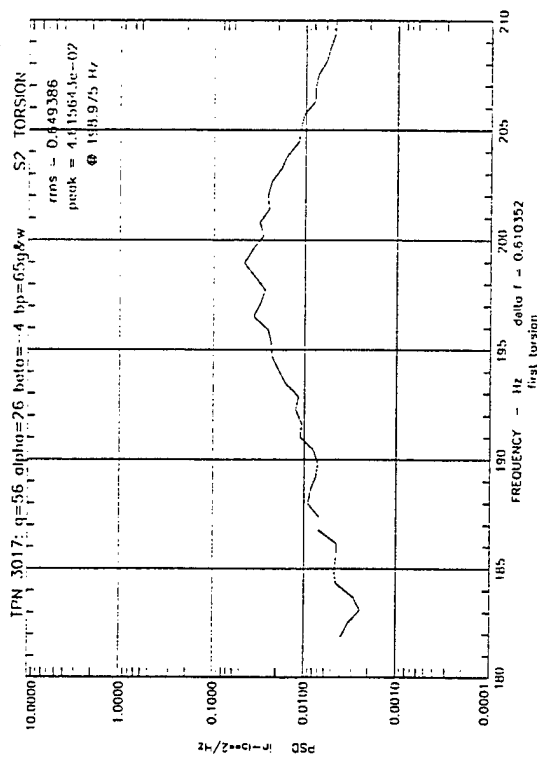
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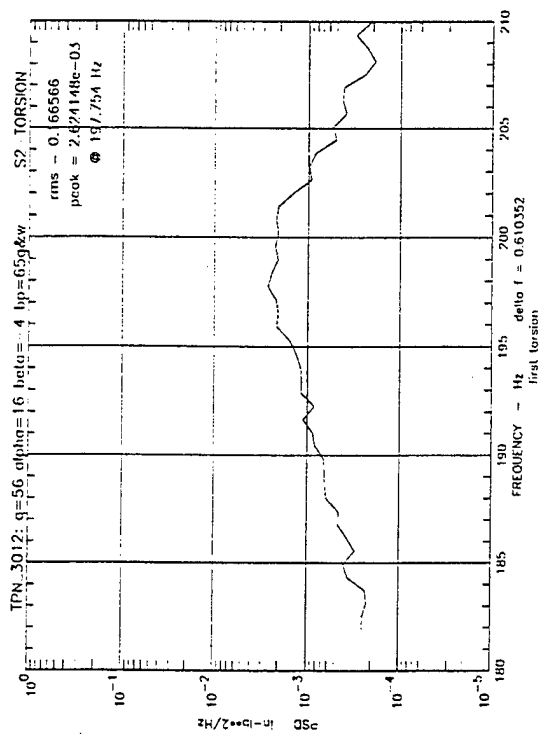
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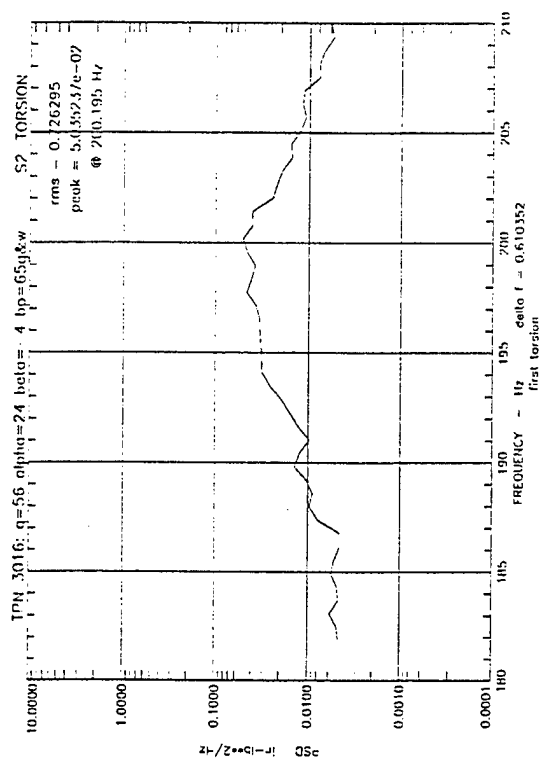
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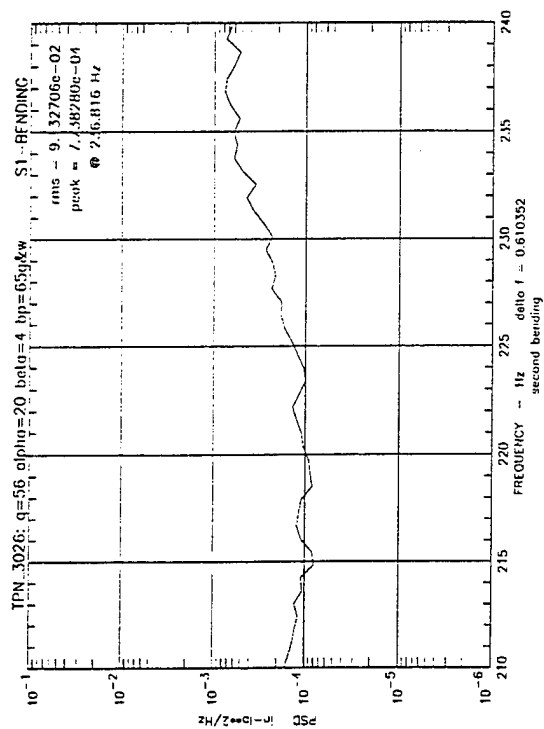
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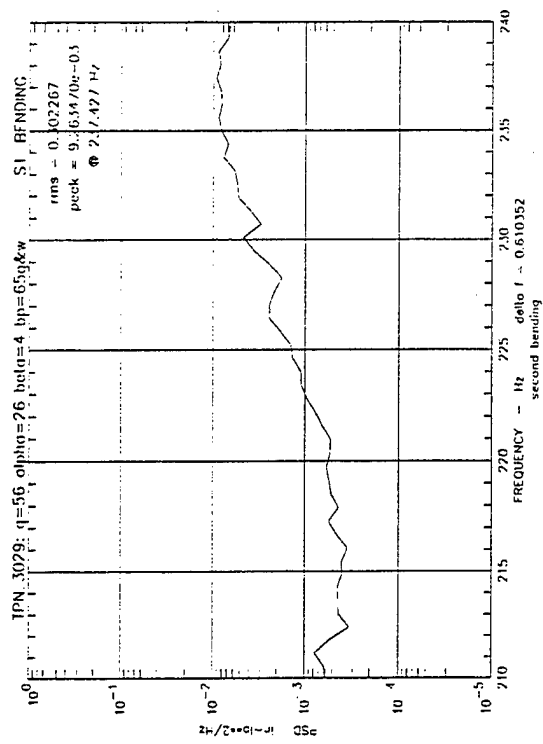
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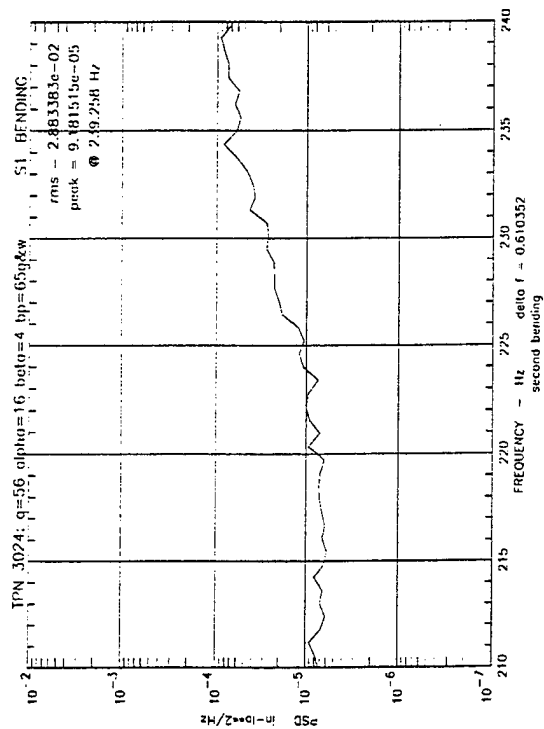
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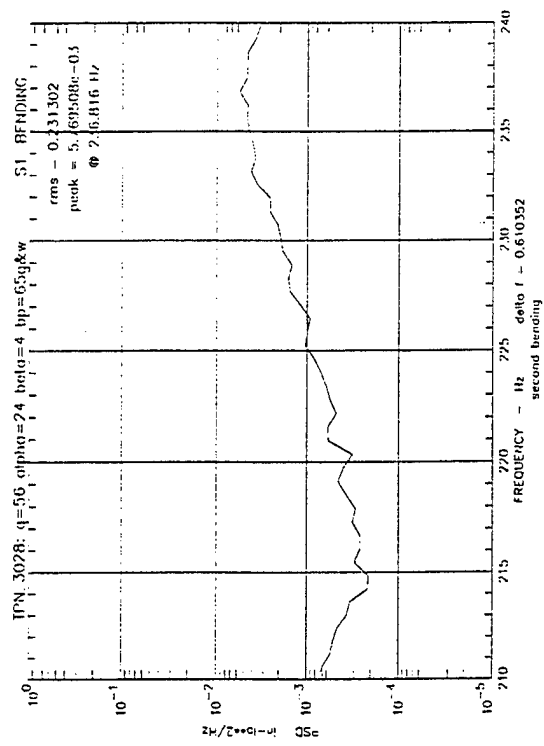
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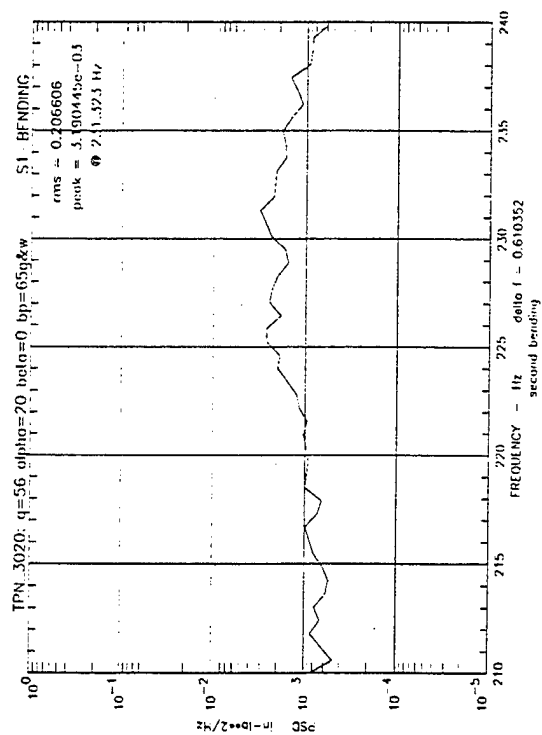
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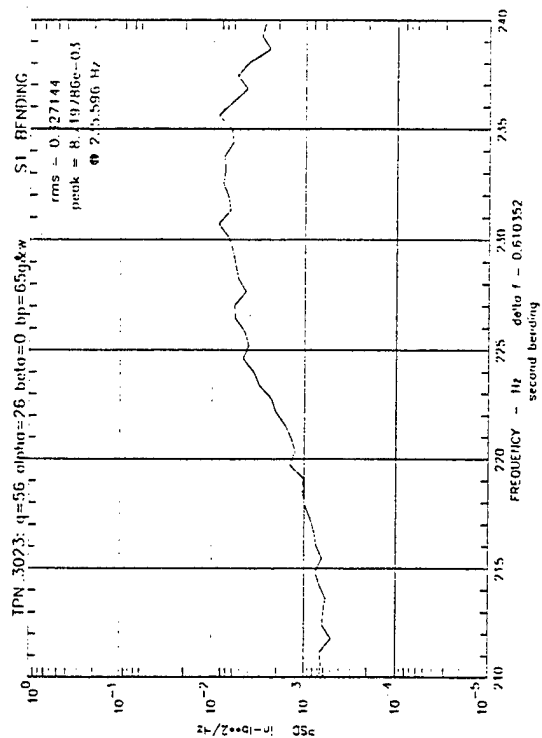
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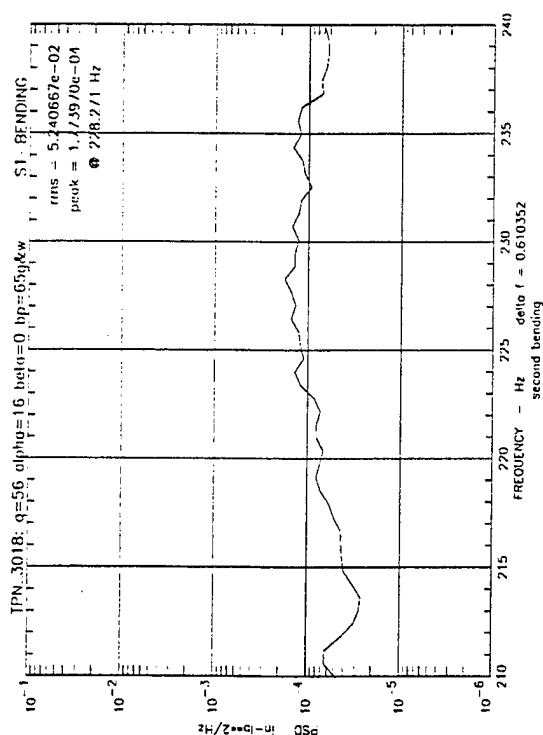
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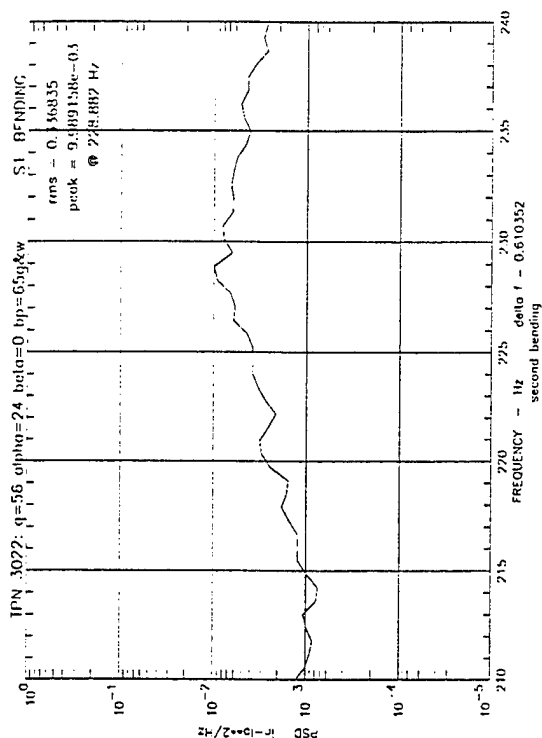
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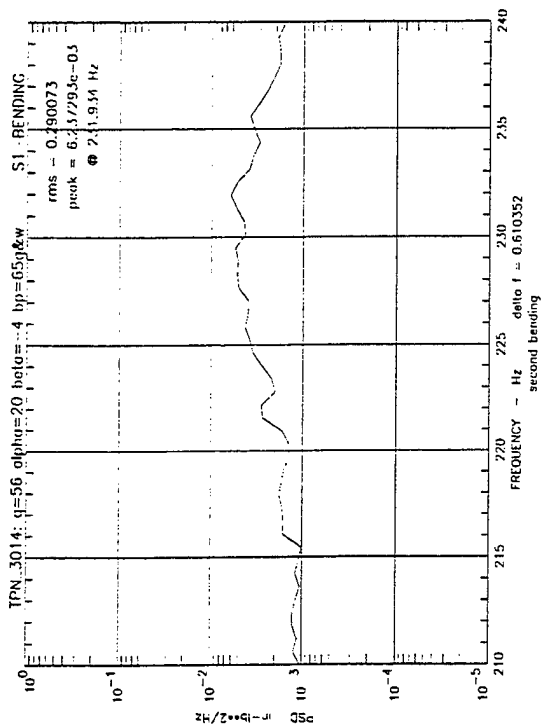
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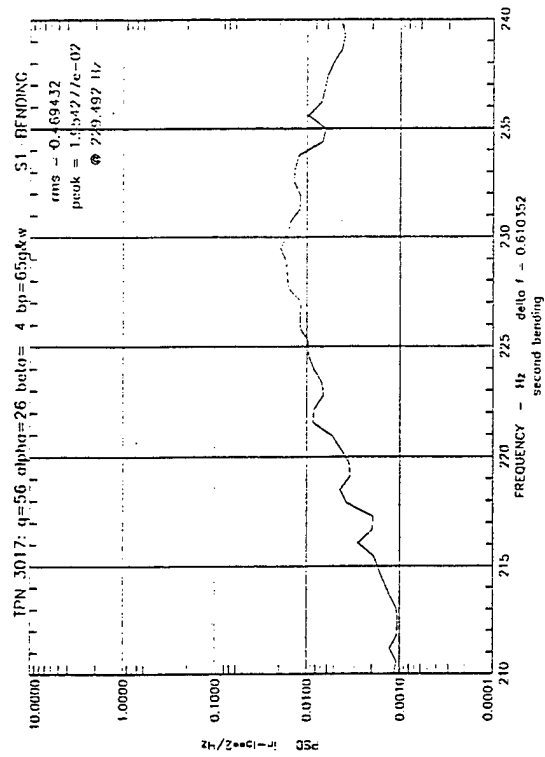
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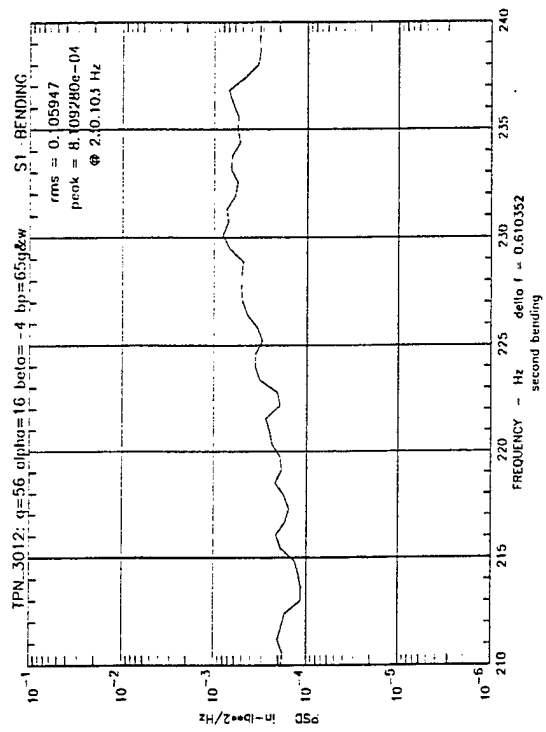
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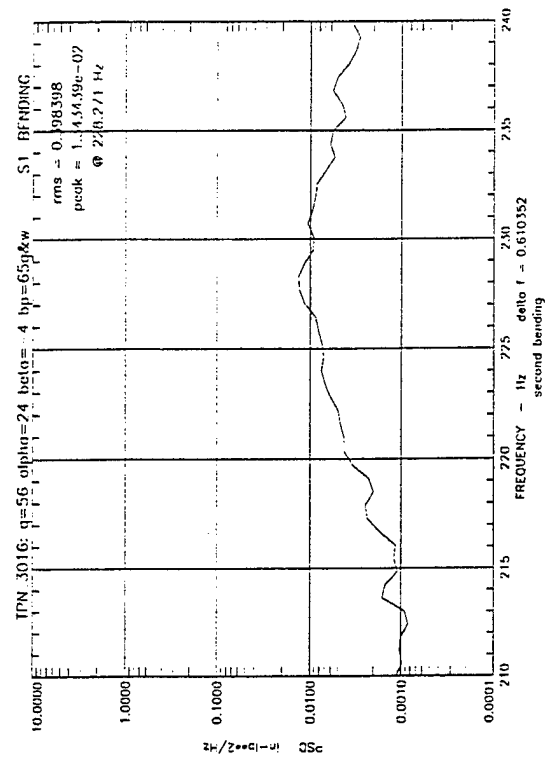
F-15 Tail Buffet Test



F-15 Tail Buffet Test



F-15 Tail Buffet Test



**FLEXIBLE TAIL RESPONSE
DIMENSIONAL BENDING AND TORSION
PSD GRAPHS**

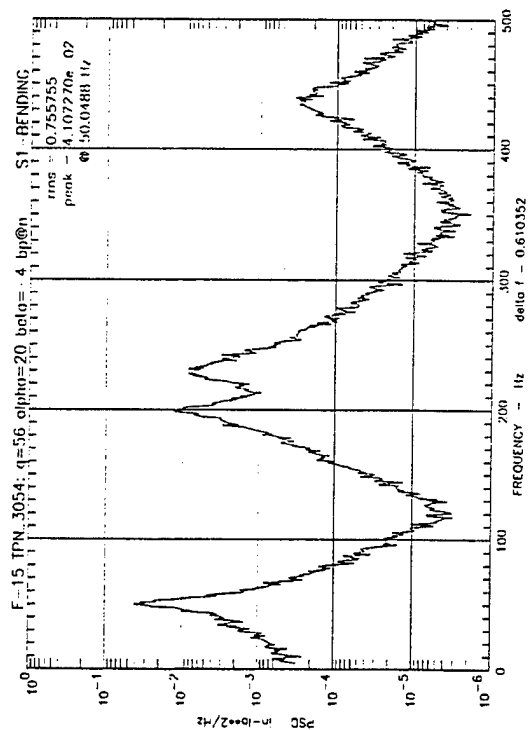
Q= 56 PSF

2.1.1.4 NBP = 87 psi, BETA= 0, +4, -4, ALPHA = 0....32 Deg

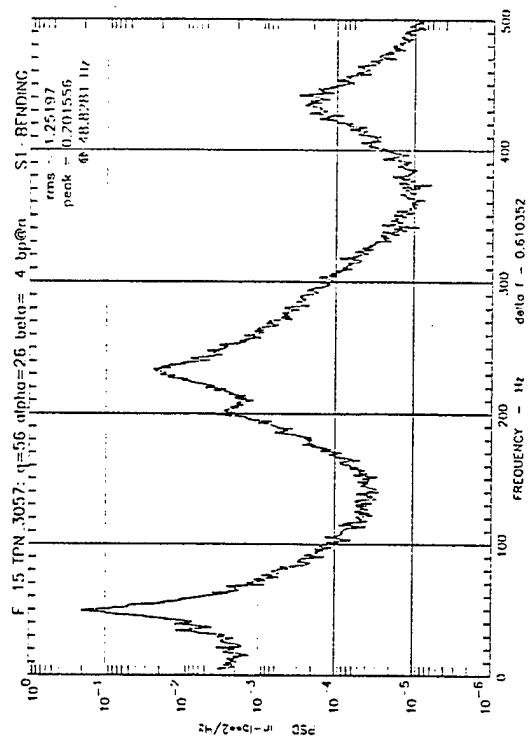
**FLEXIBLE TAIL RESPONSE
DIMENSIONAL BENDING AND TORSION
PSD GRAPHS**

2.1.1.4 NBP = 87 psi, BETA = 0, +4, -4, ALPHA = 0....32 Deg

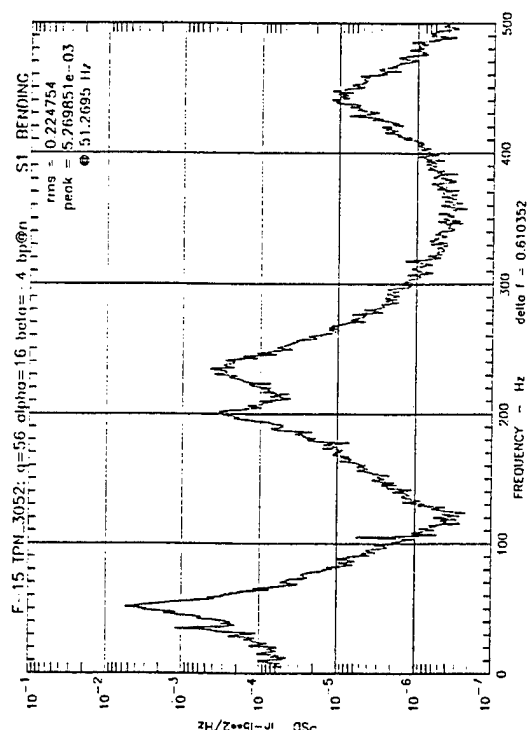
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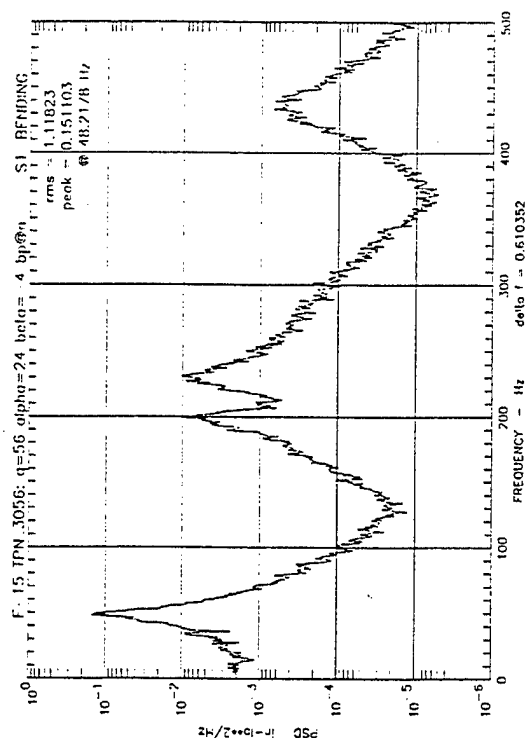
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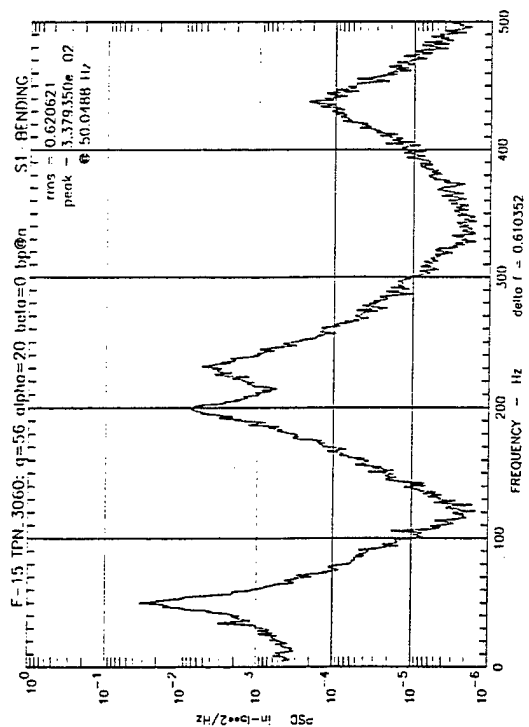
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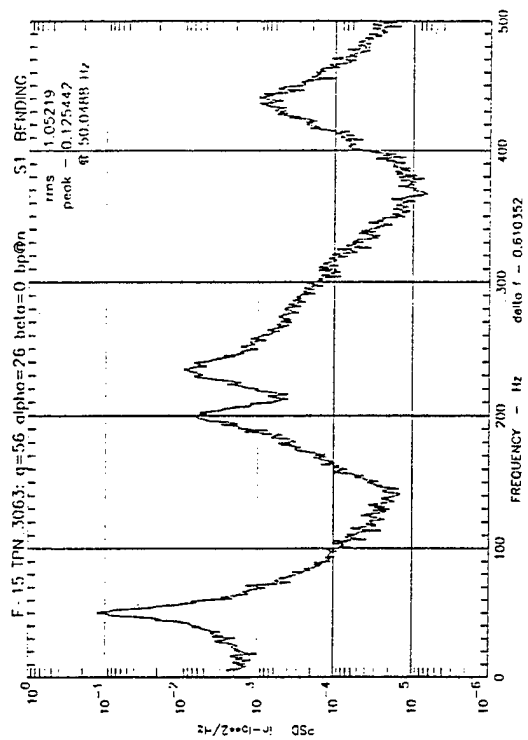
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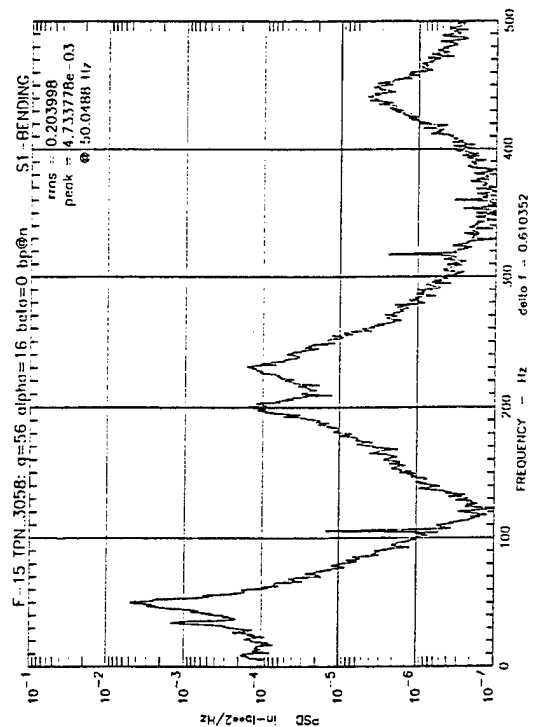
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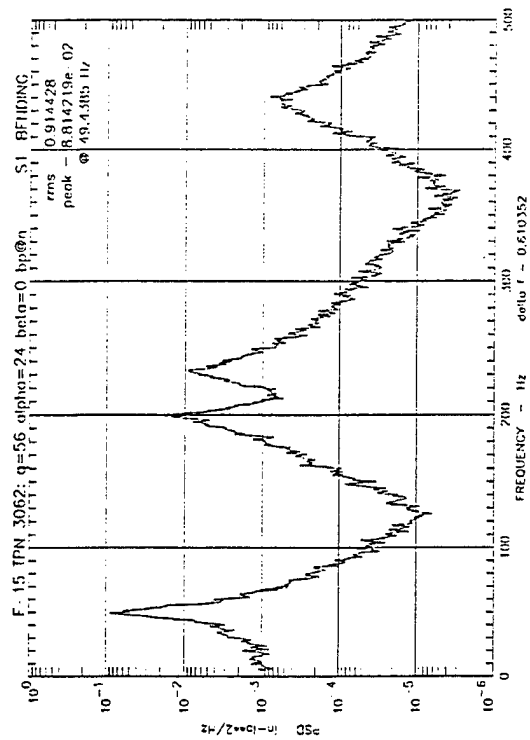
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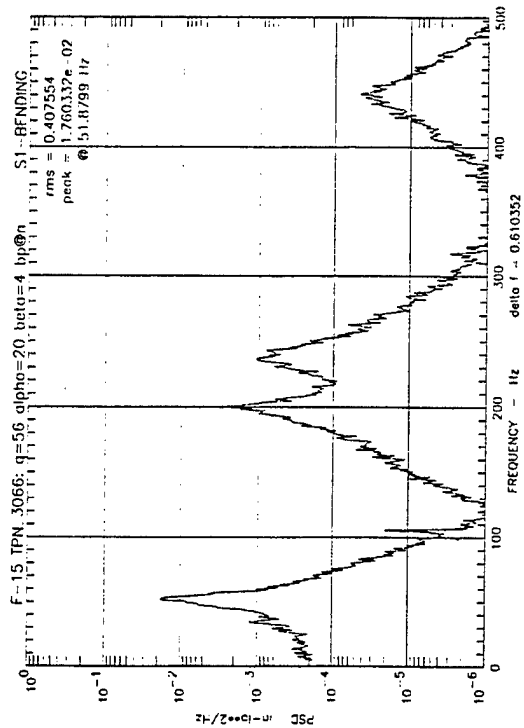
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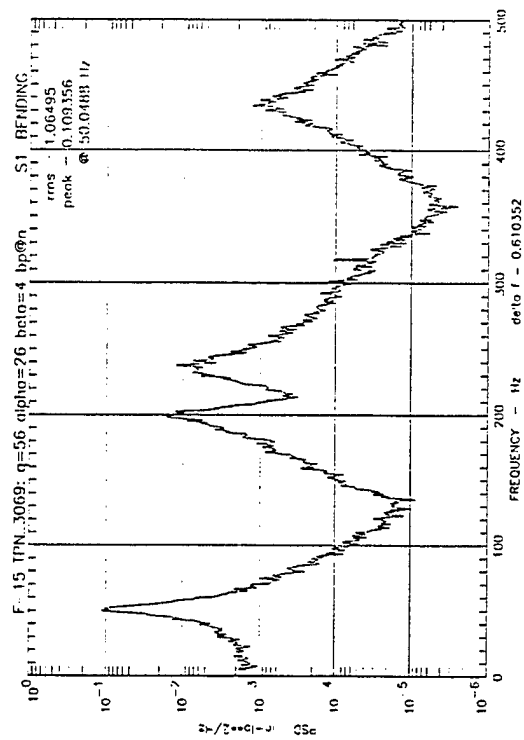
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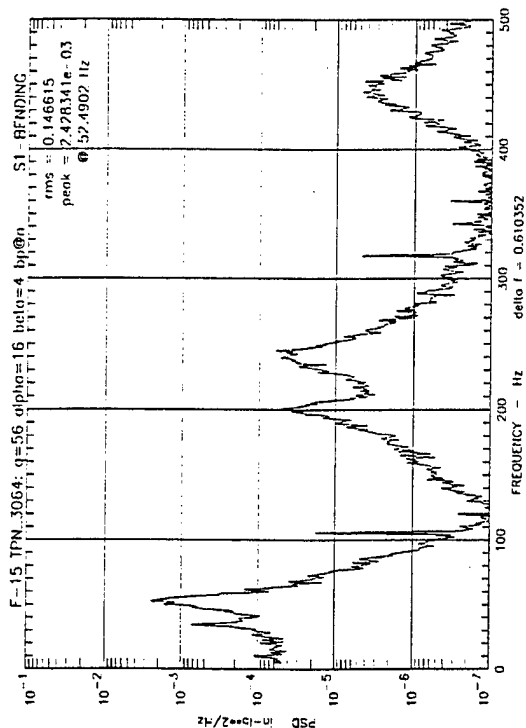
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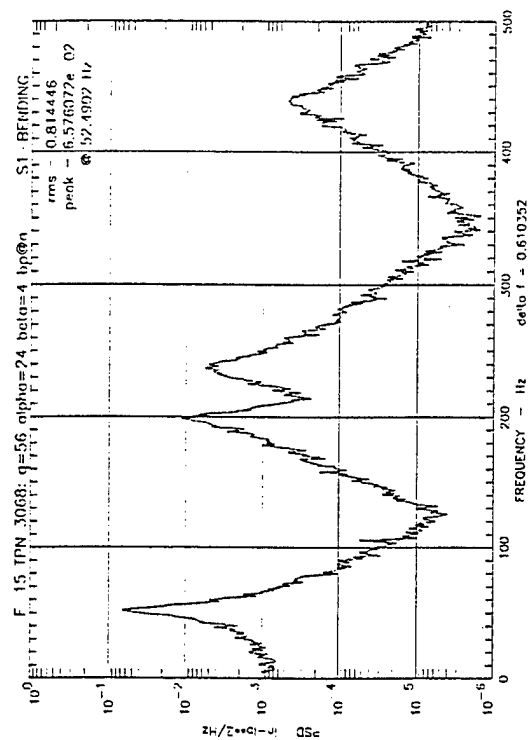
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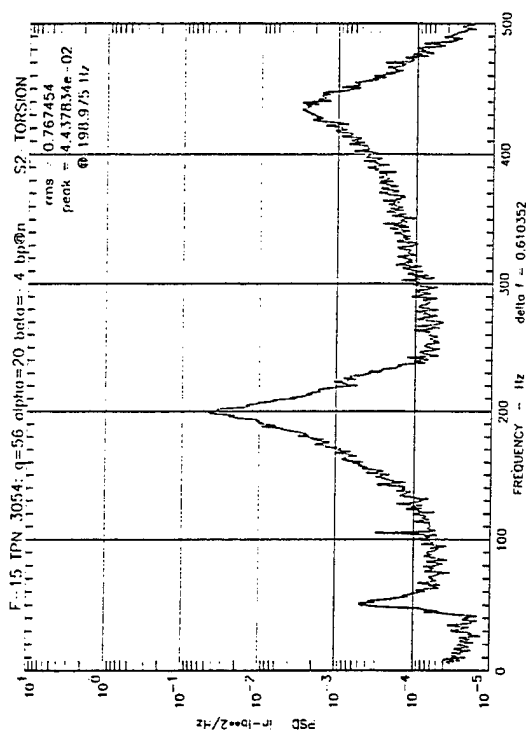
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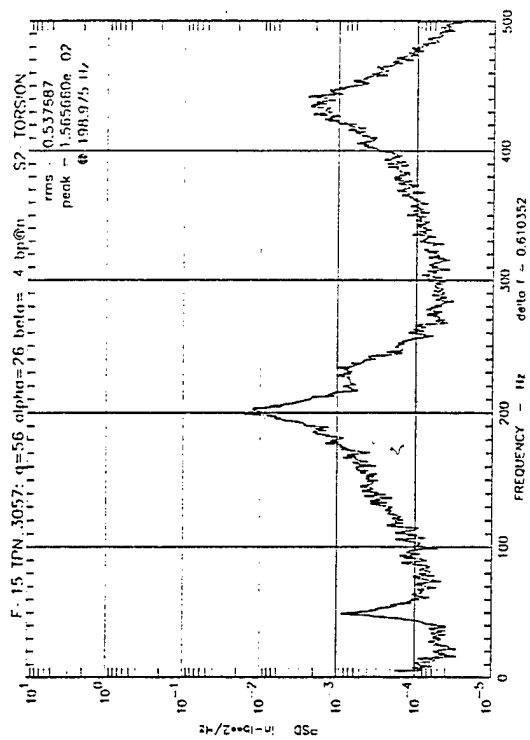
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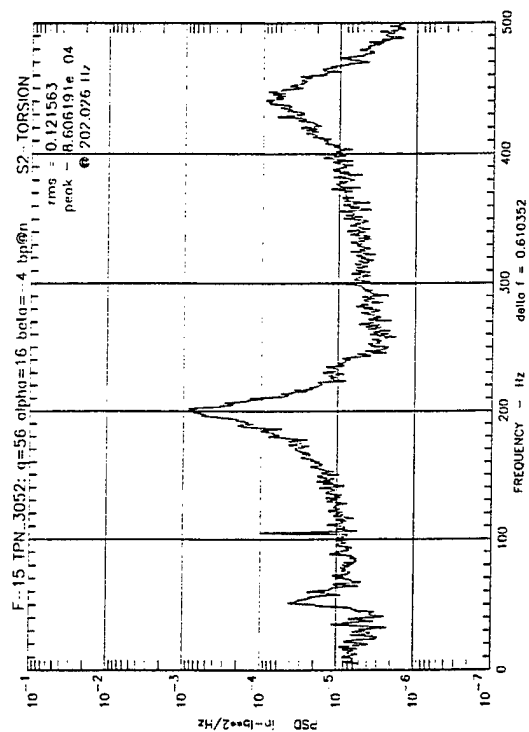
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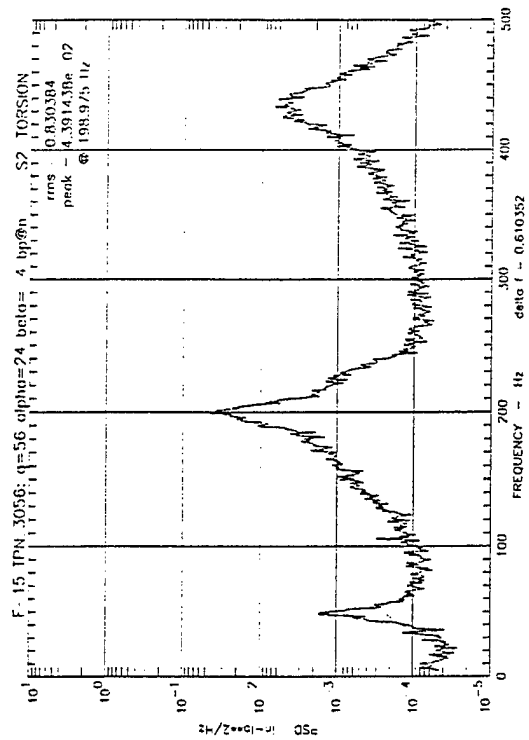
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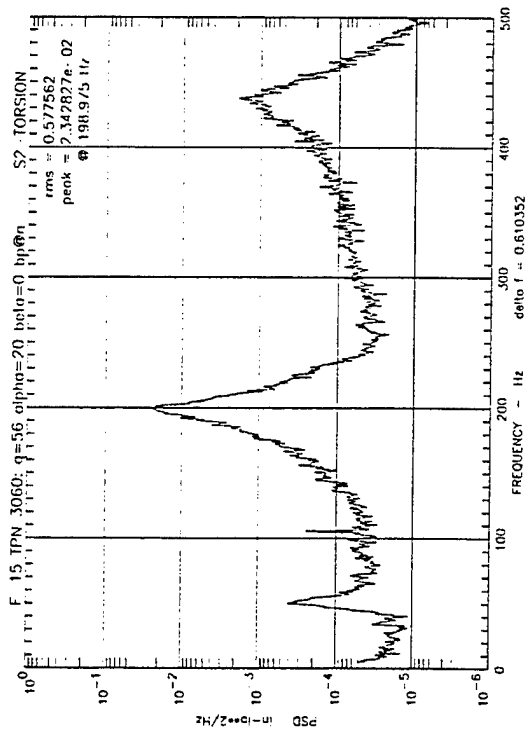
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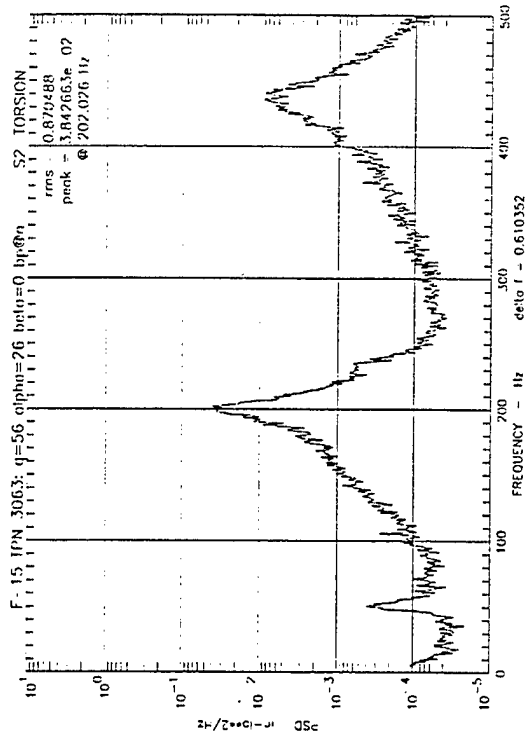
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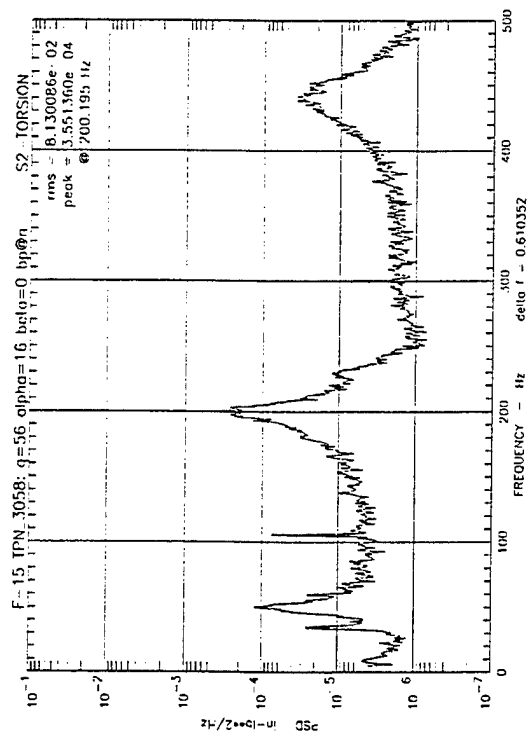
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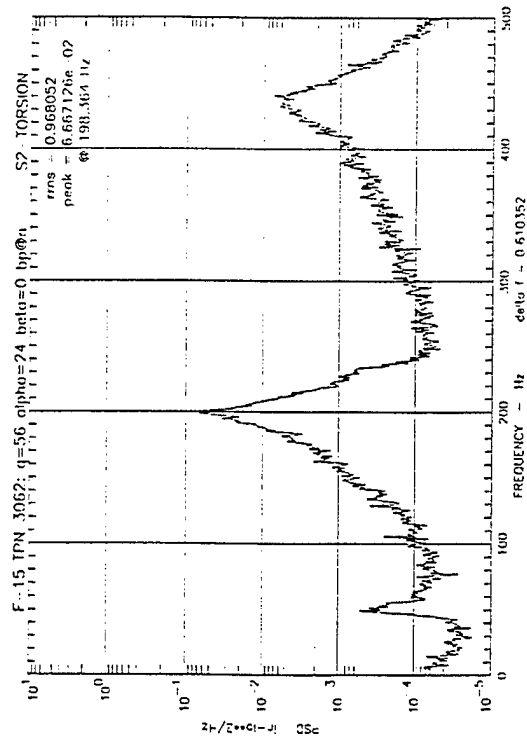
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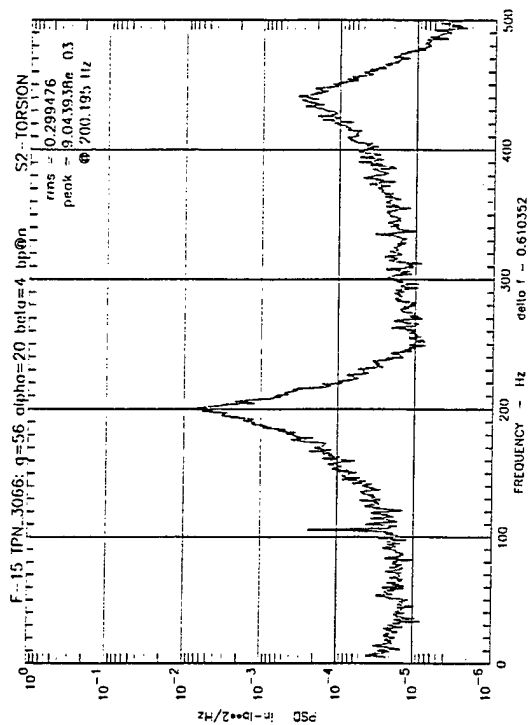
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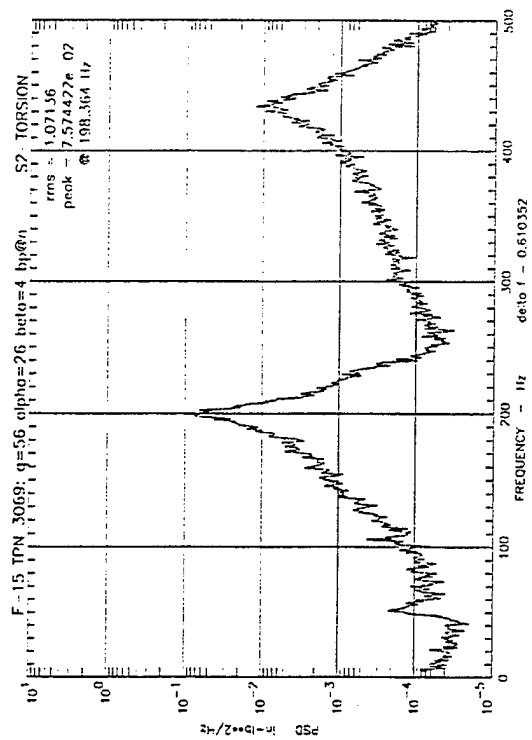
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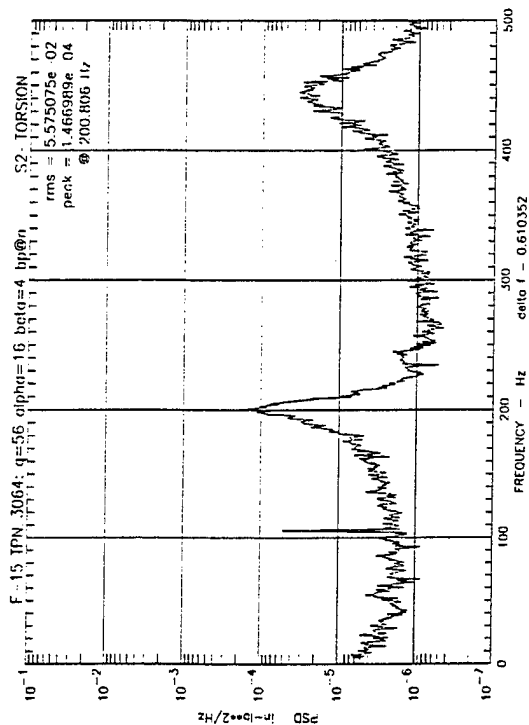
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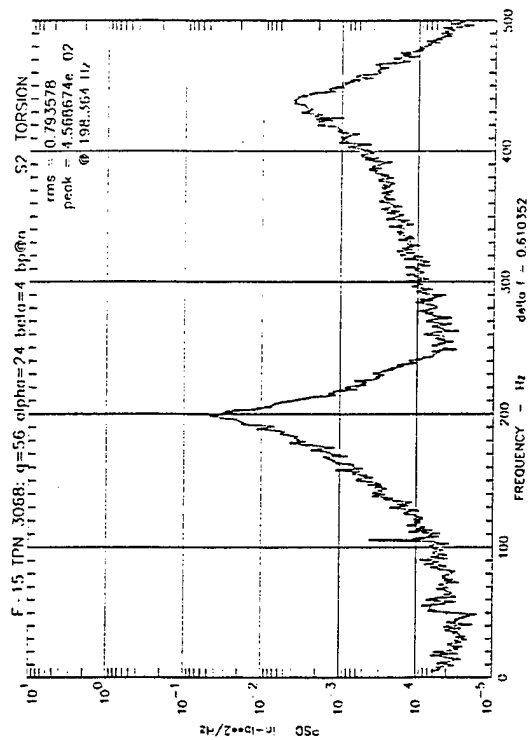
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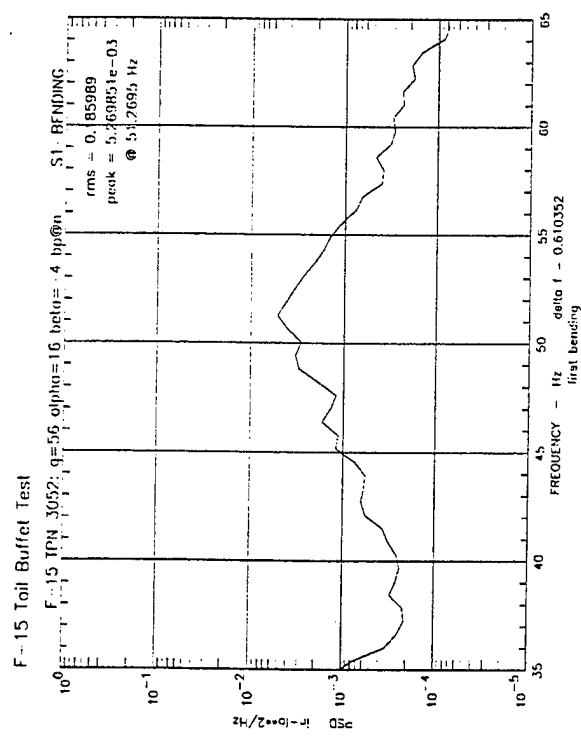
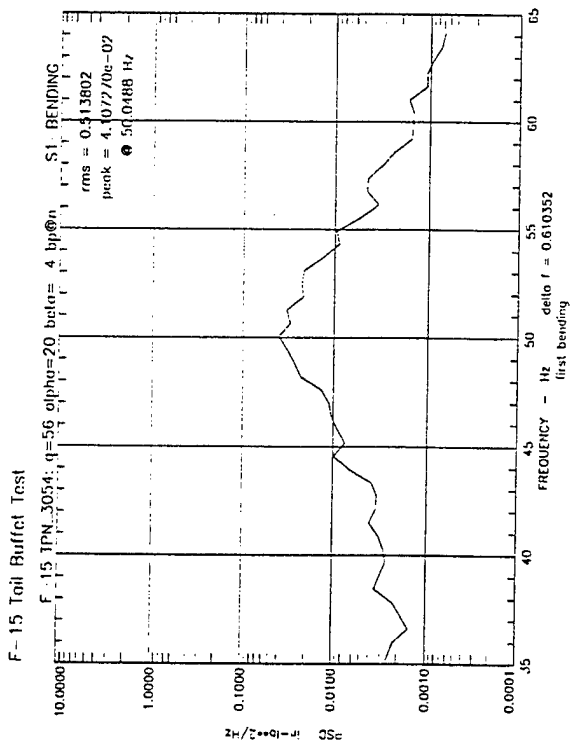
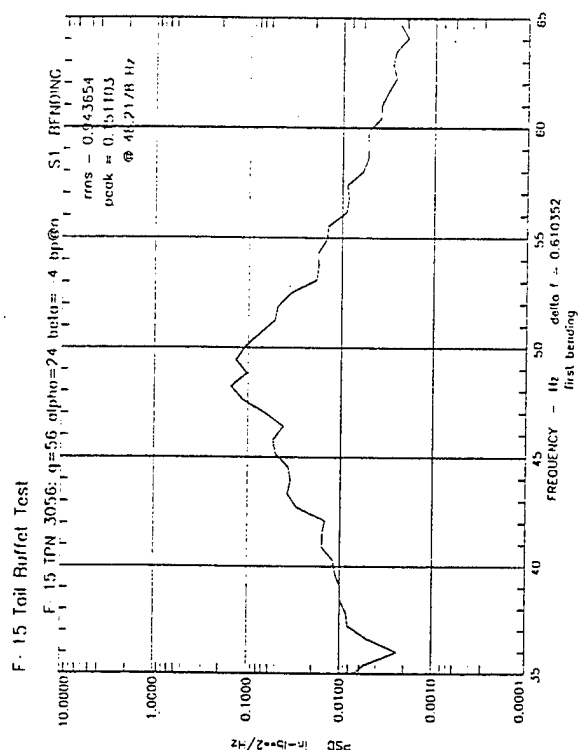
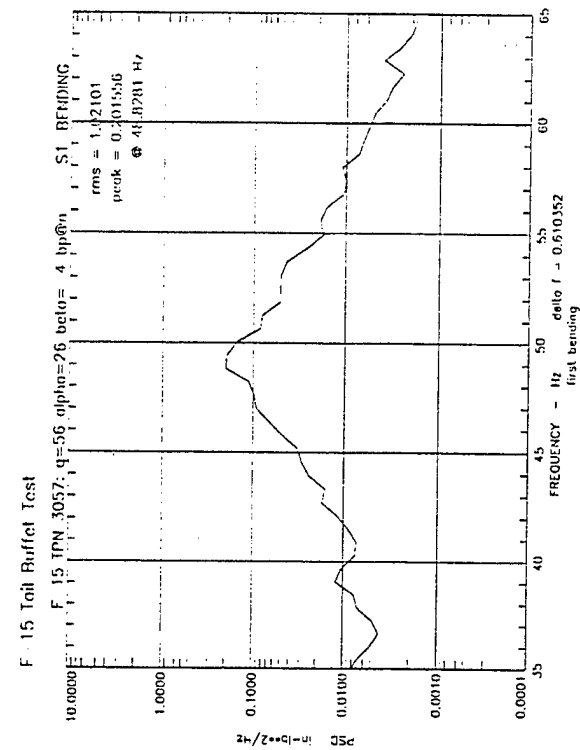


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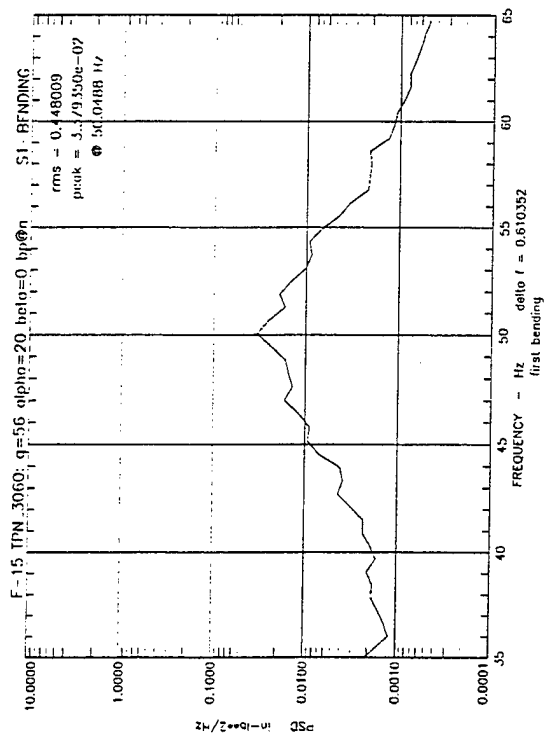


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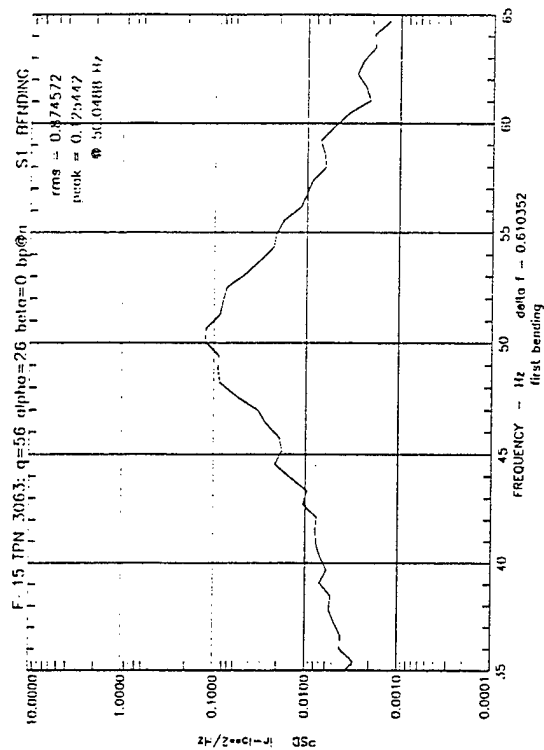




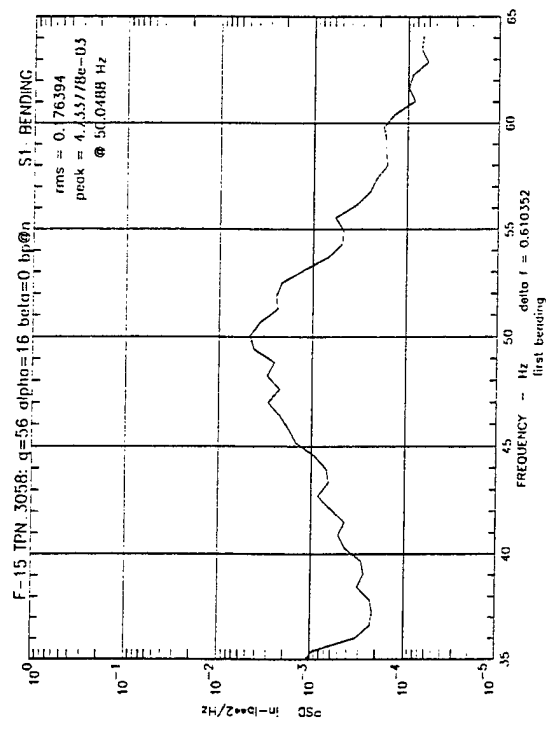
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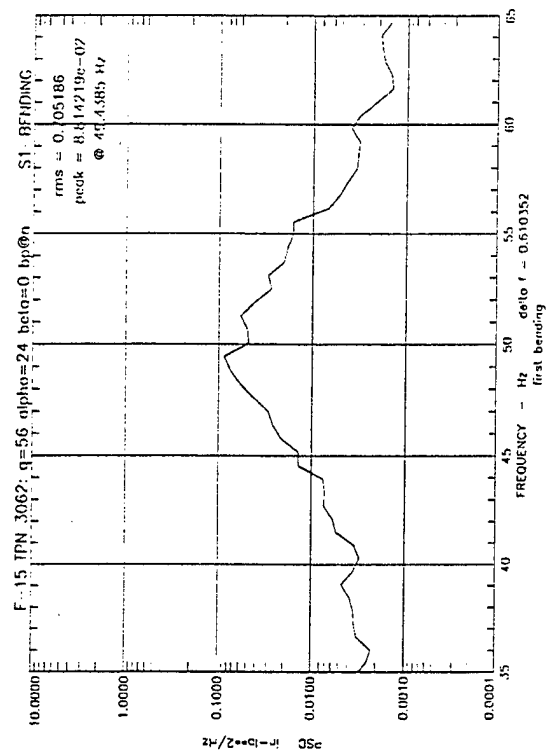
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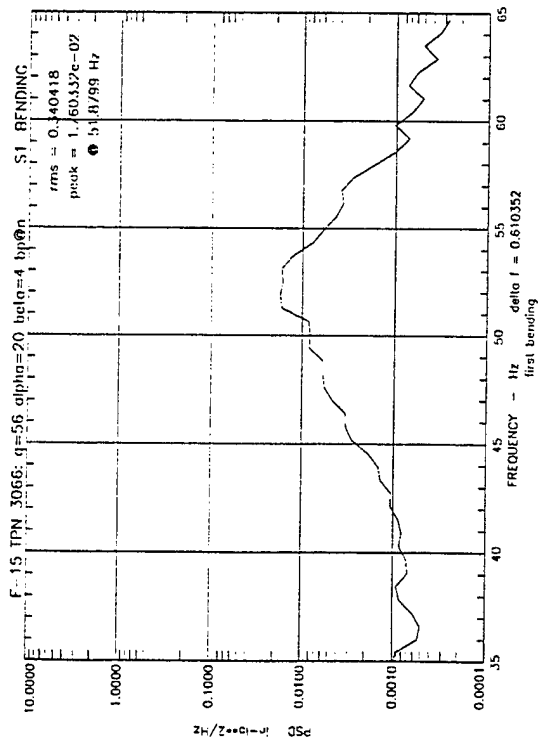
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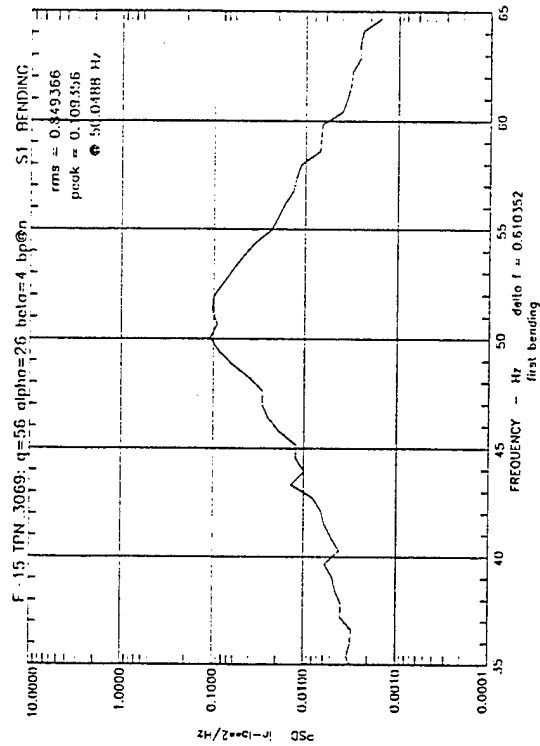
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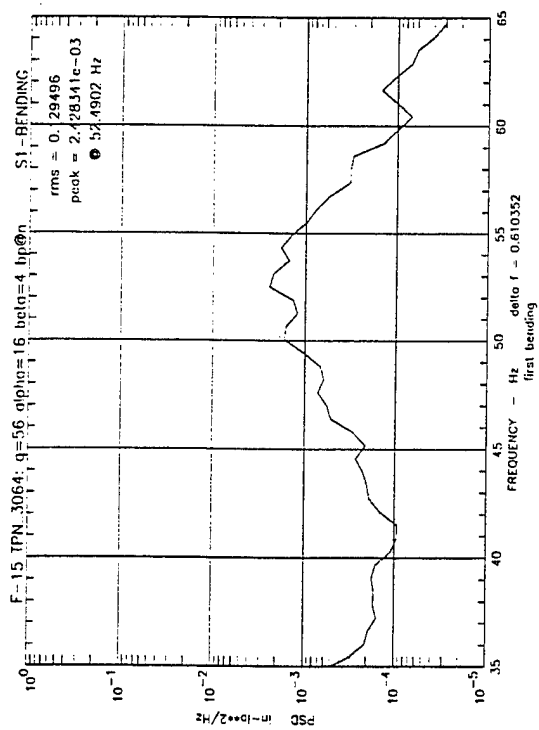
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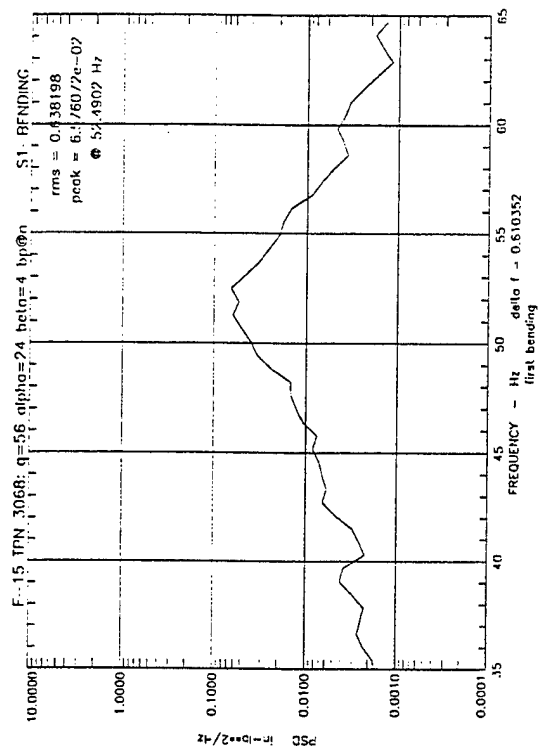
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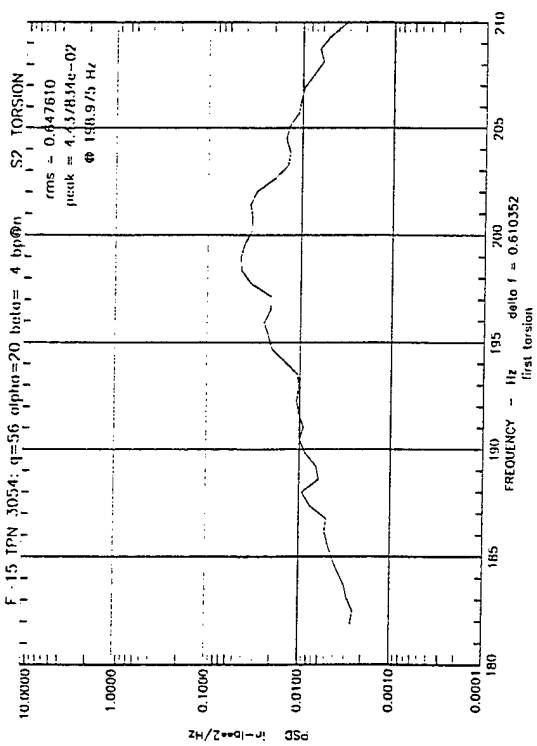
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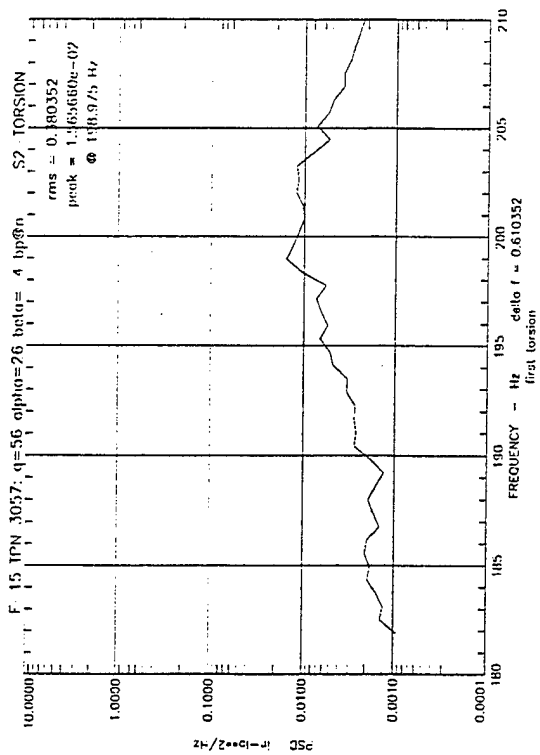
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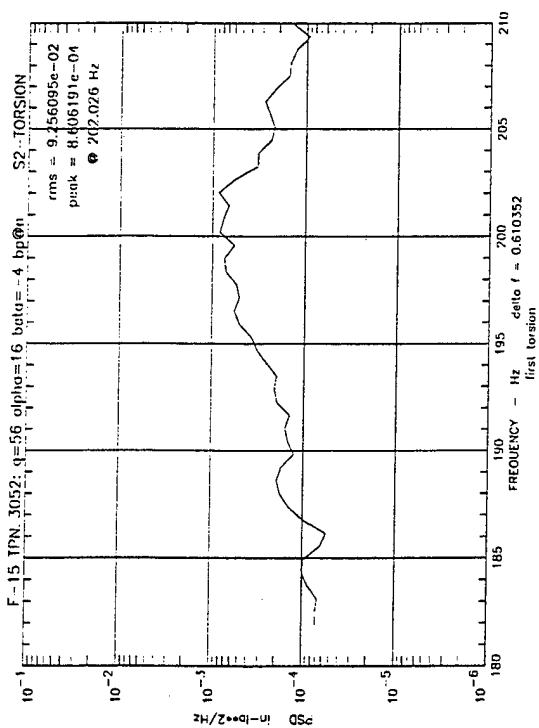
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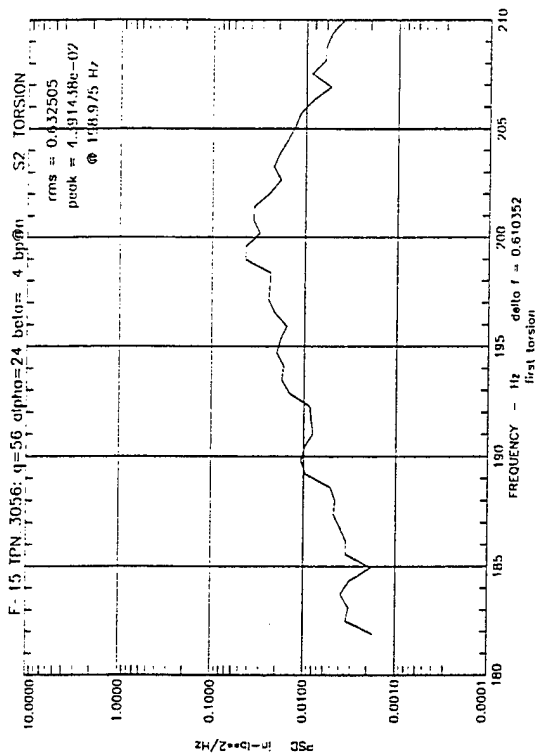
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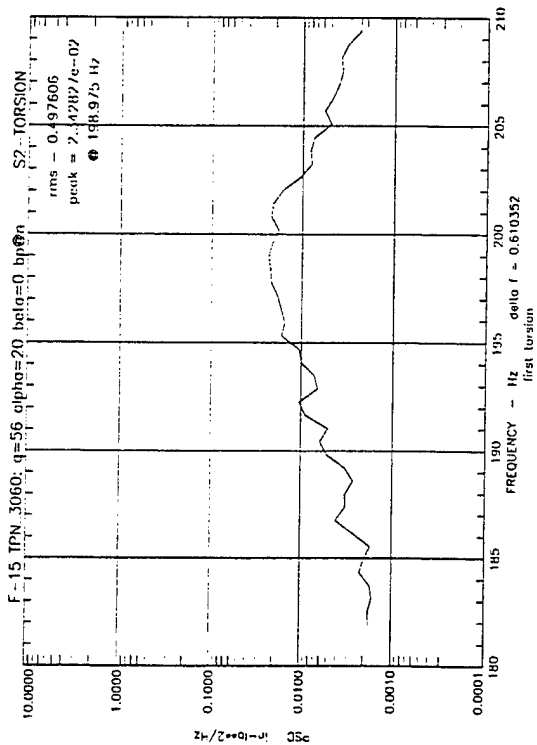
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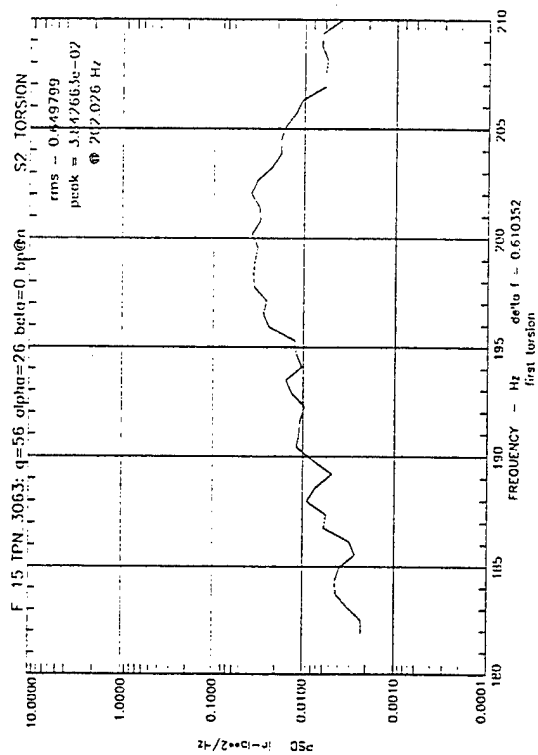
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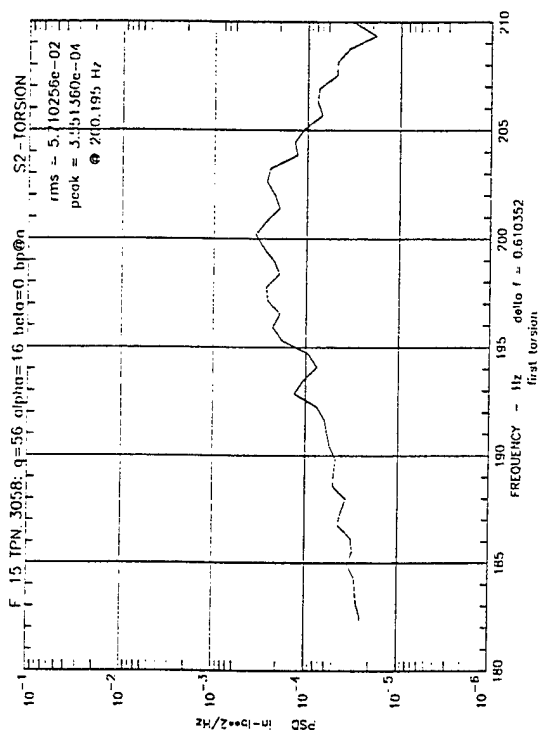
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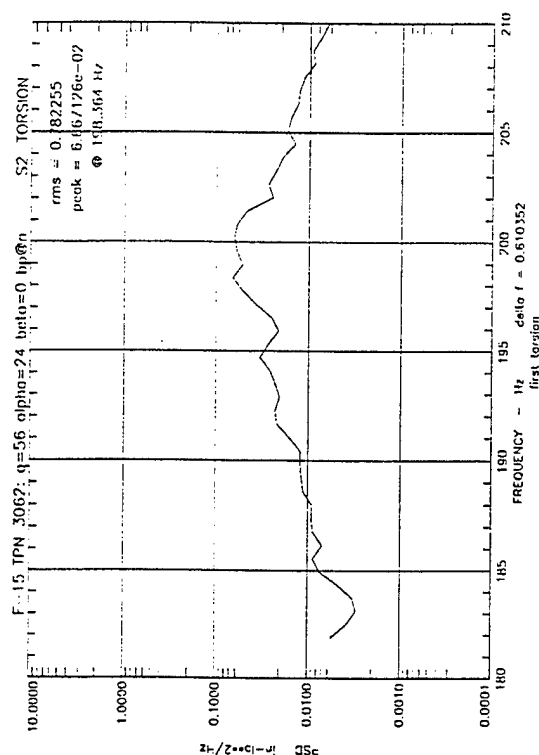
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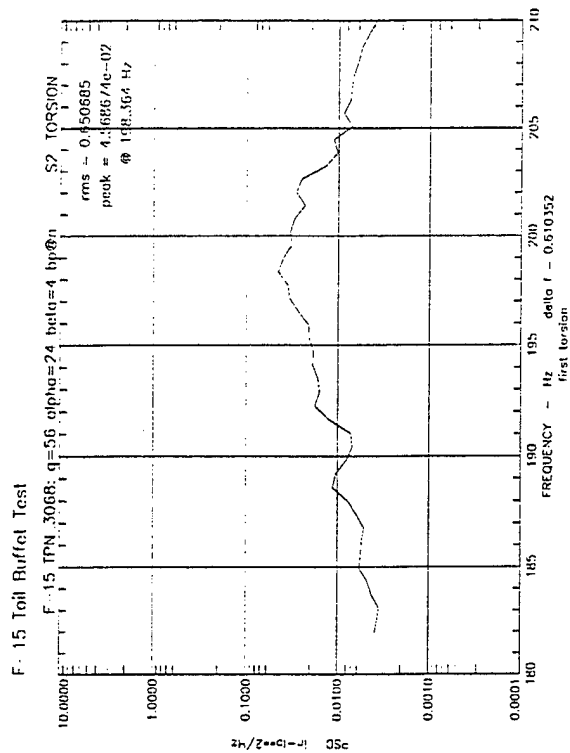
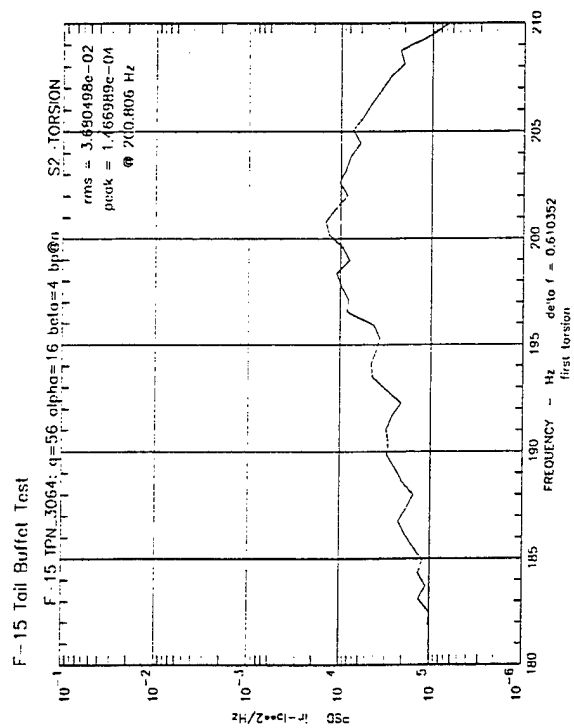
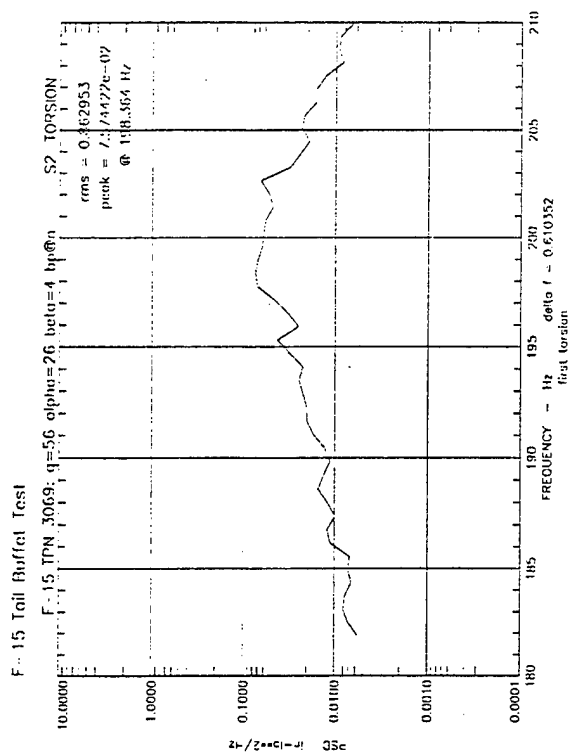
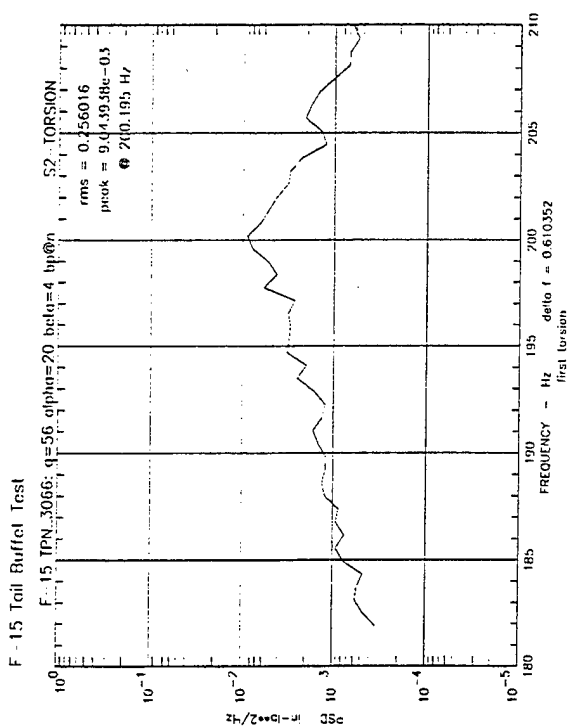


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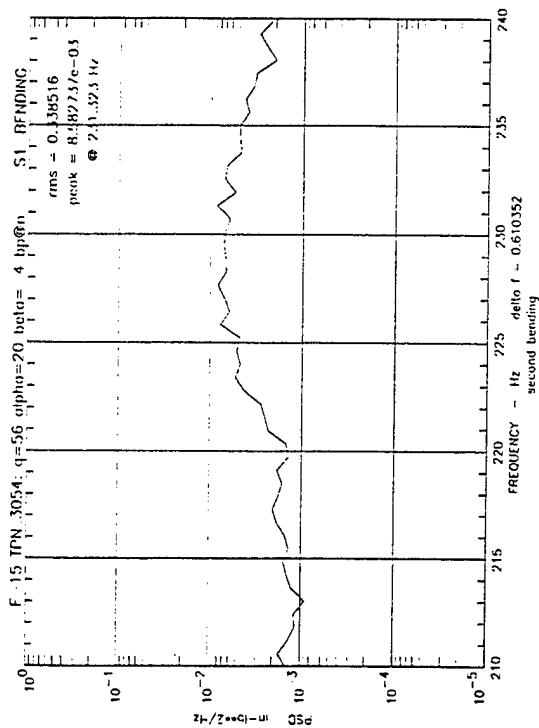


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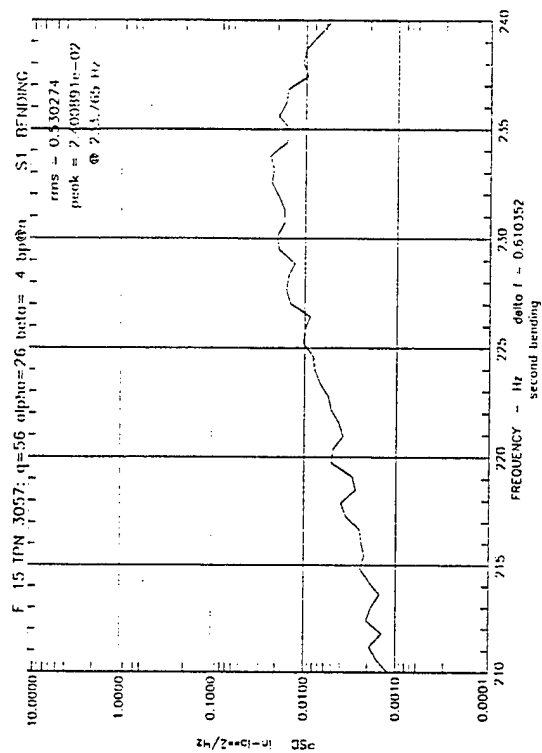




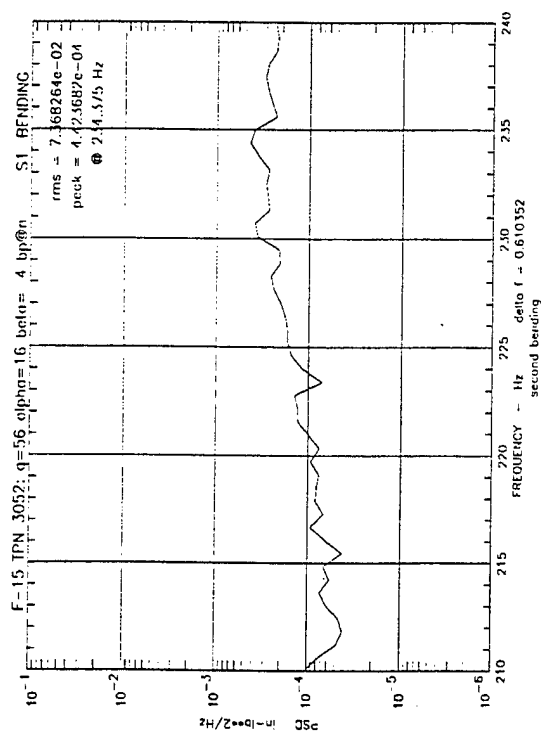
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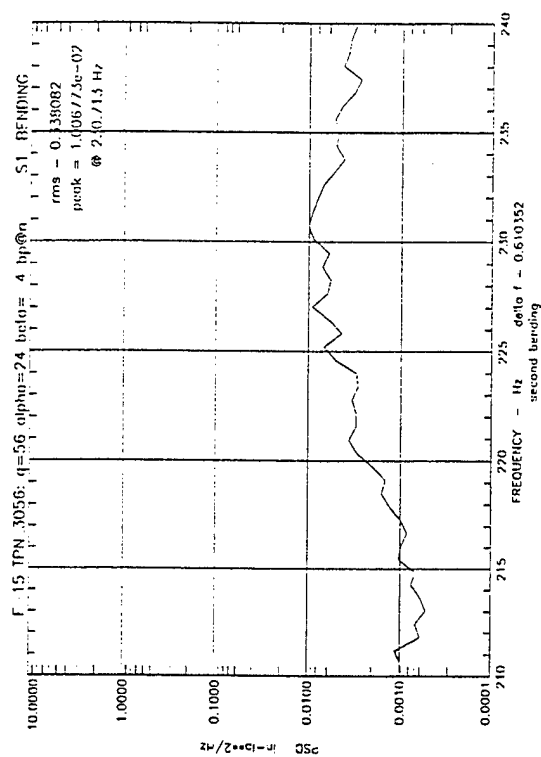
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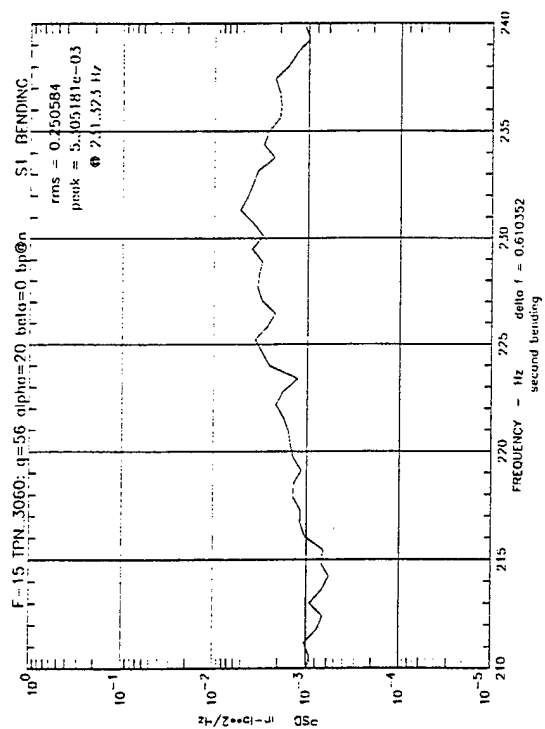
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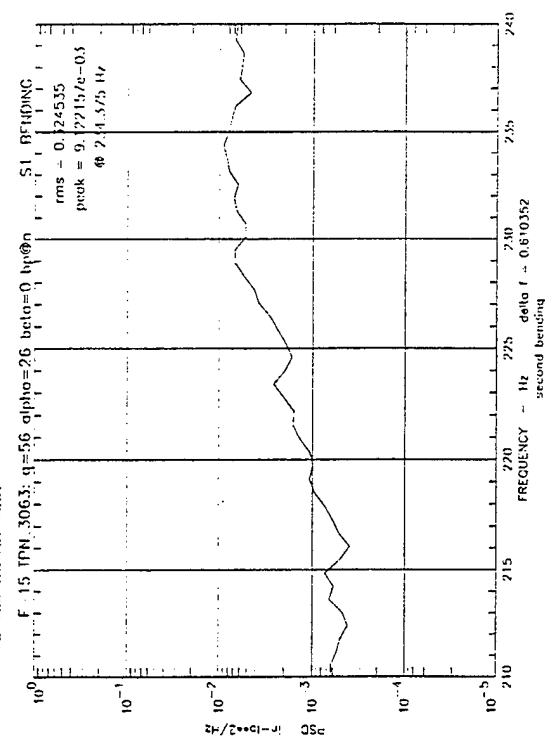
F-15 Tail Buffet Test



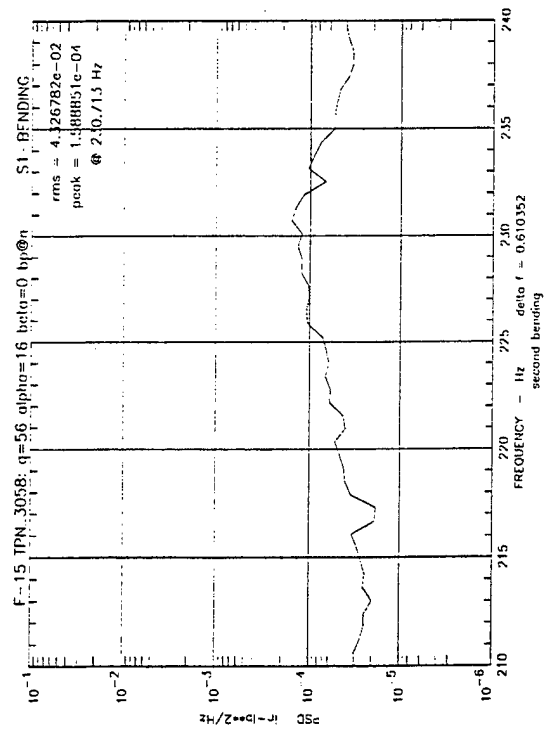
F-15 Tail Buffet Test



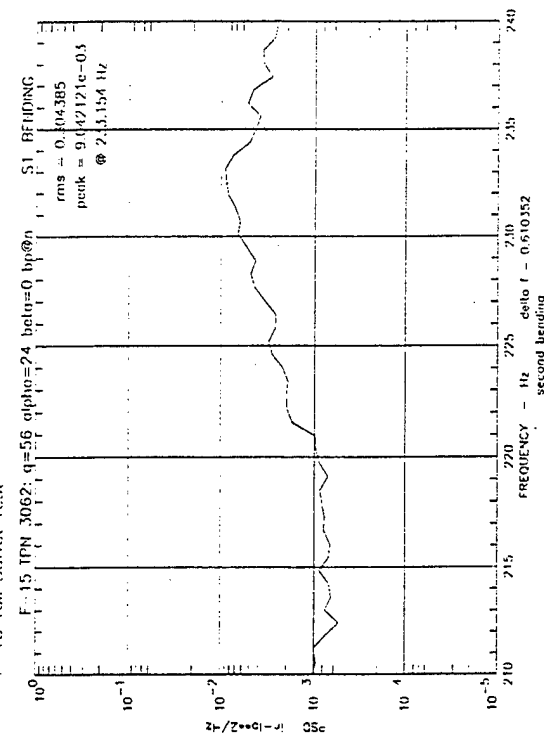
F-15 Tail Buffet Test



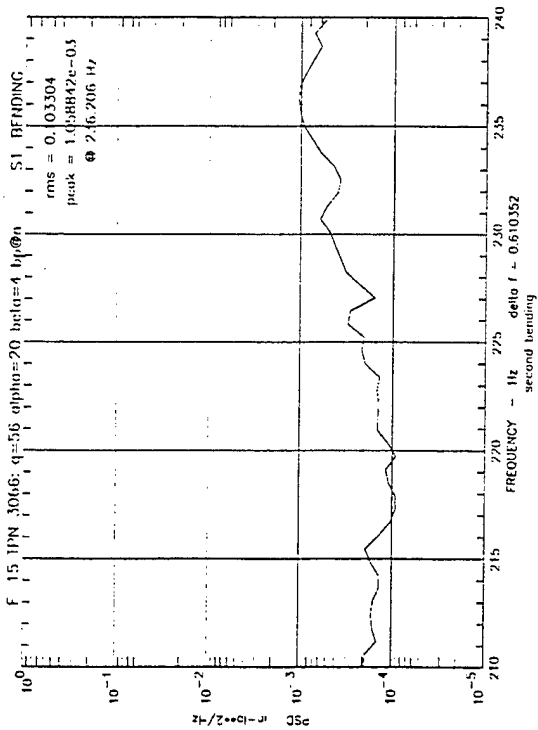
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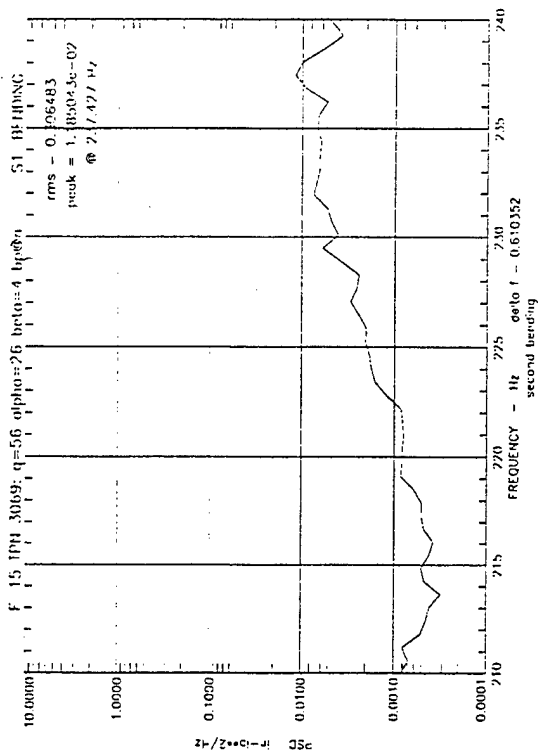
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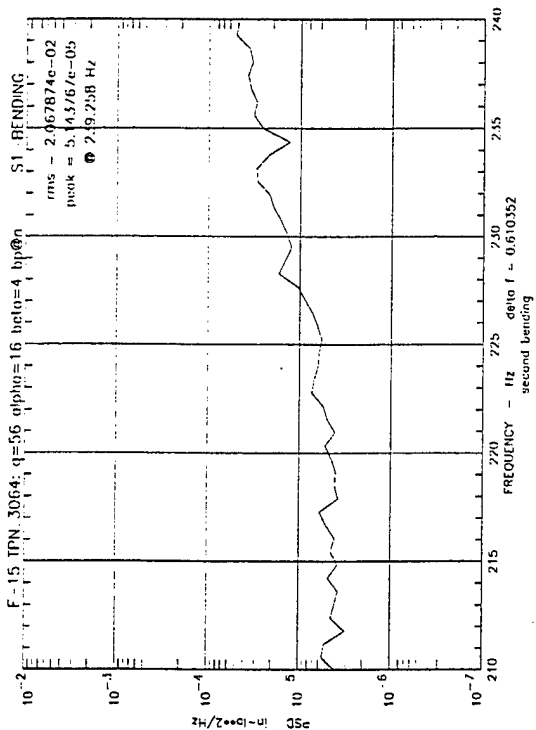
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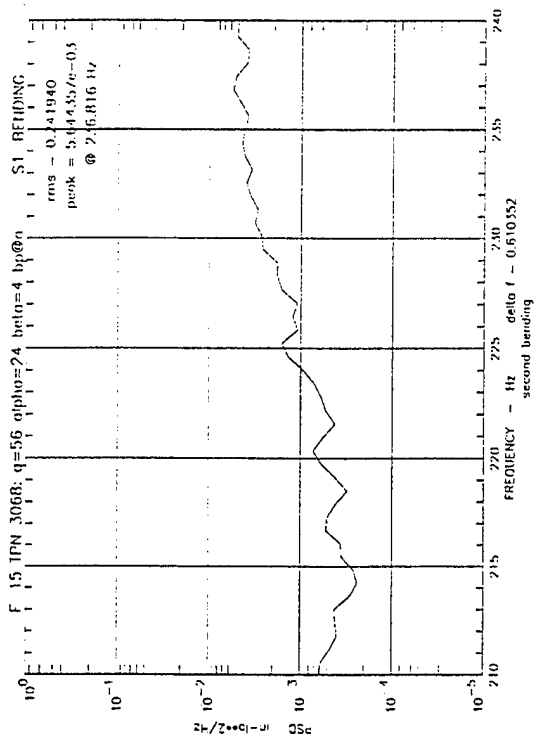
F-15 Tail Buffet Test



F-15 Tail Buffet Test



F-15 Tail Buffet Test



**FLEXIBLE TAIL RESPONSE
DIMENSIONAL BENDING AND TORSION
PSD GRAPHS**

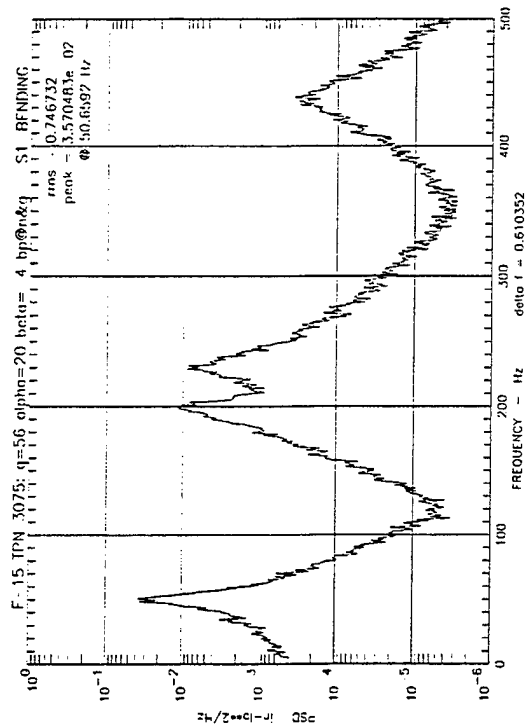
Q= 56 PSF

2.1.1.5 NBP = 87 psi, GBP = 65 psi, BETA= 0, +4, -4, ALPHA = 0....32 Deg

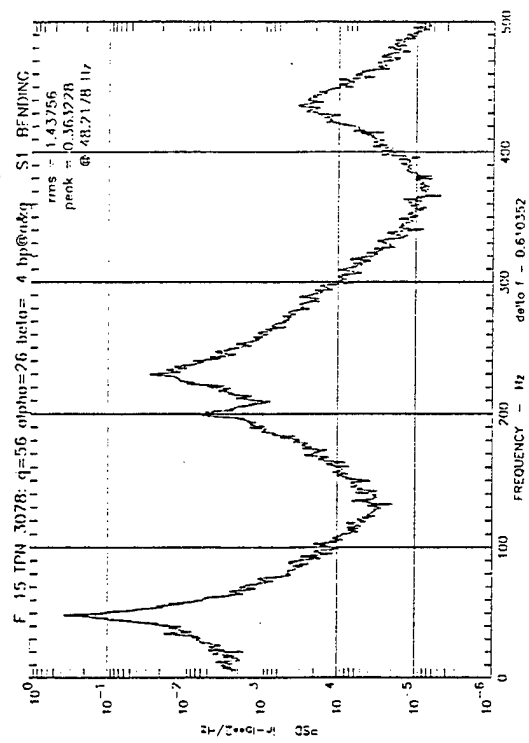
**FLEXIBLE TAIL RESPONSE
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2.1.1.5 NBP = 87 psi, GBP = 65 psi, BETA= 0, +4, -4, ALPHA = 0....32 Deg

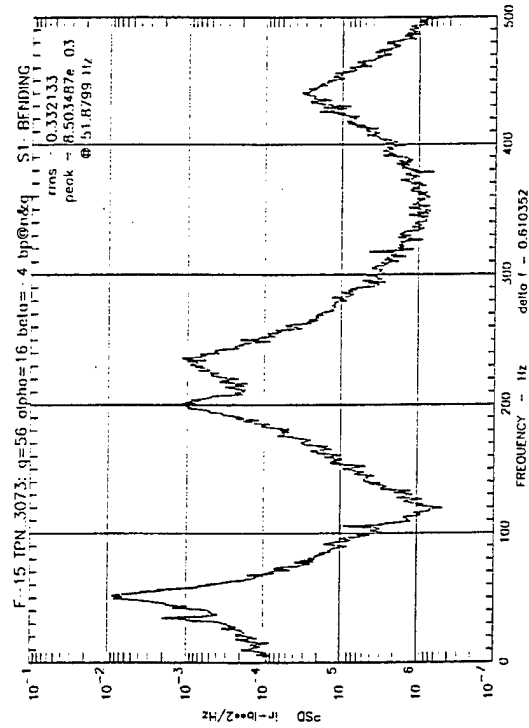
F-15 Tail Buffet Test



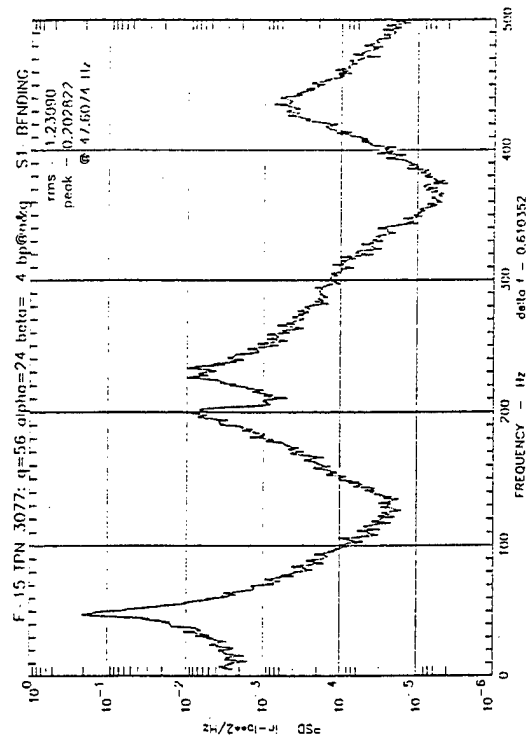
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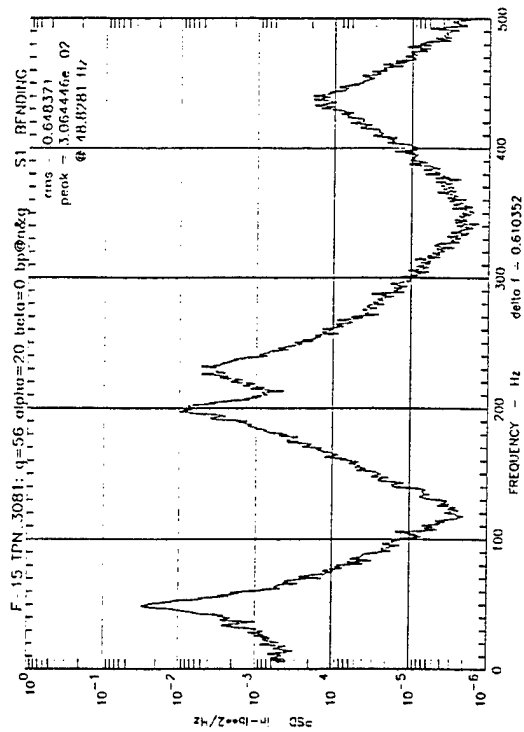
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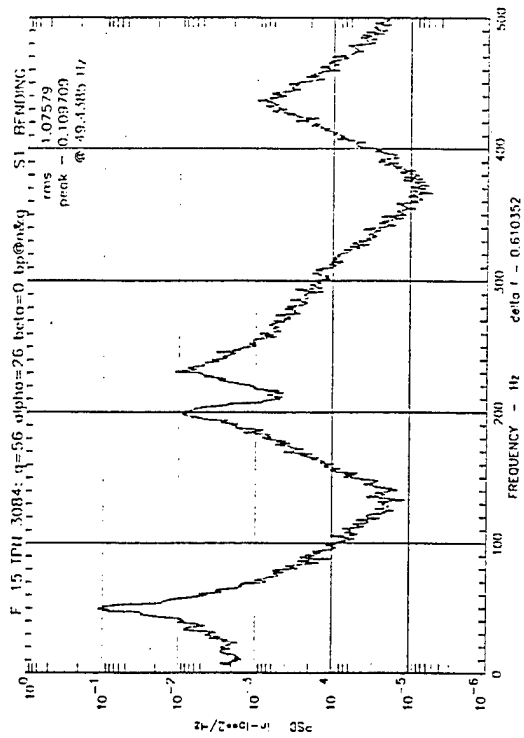
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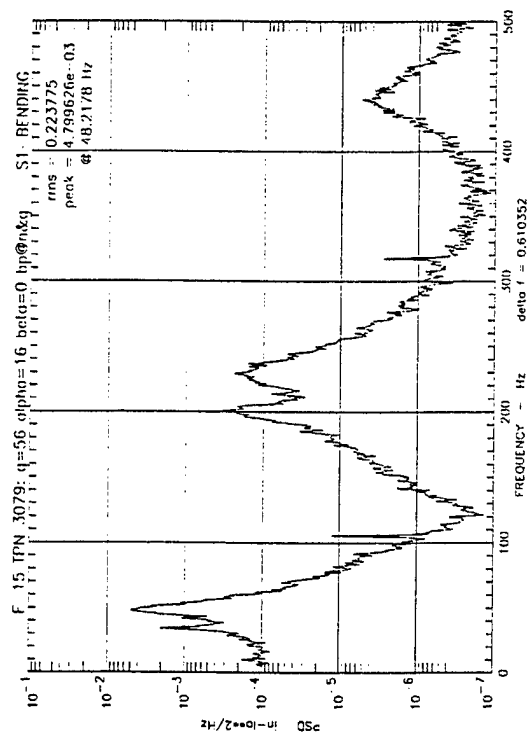
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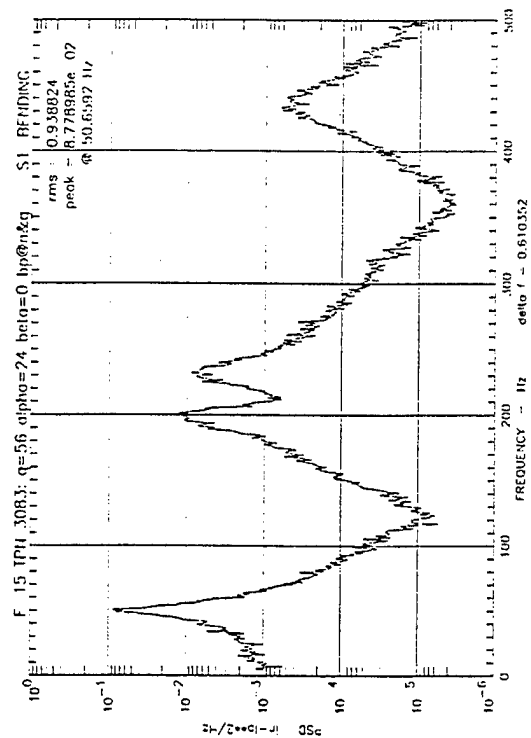
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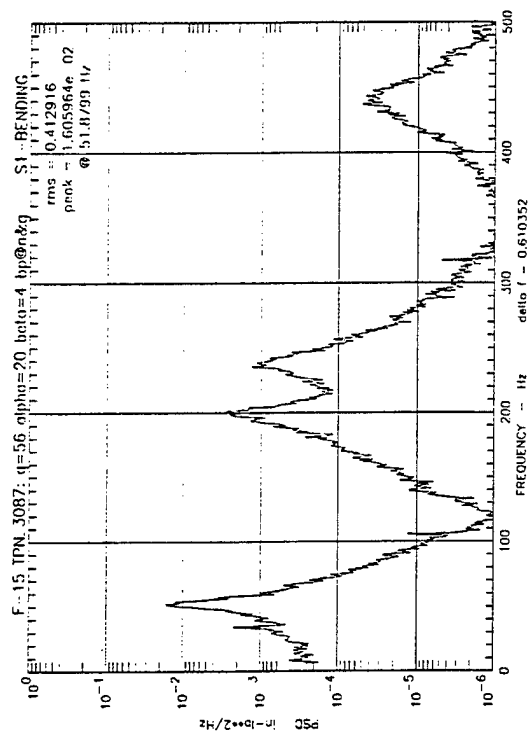
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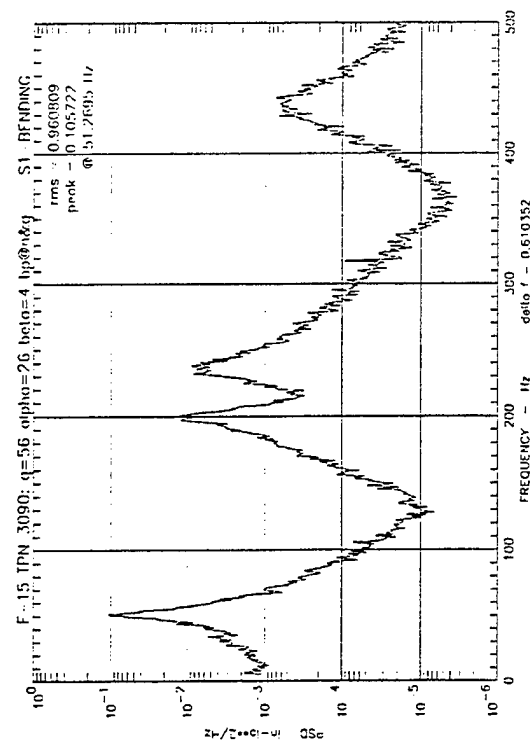
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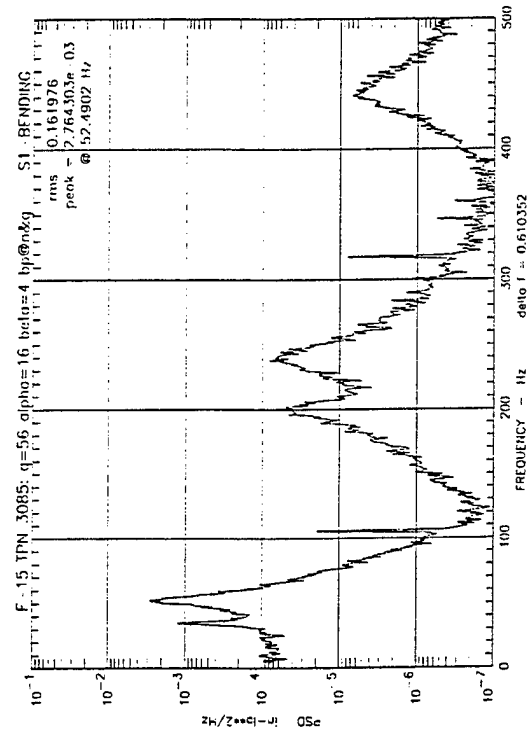
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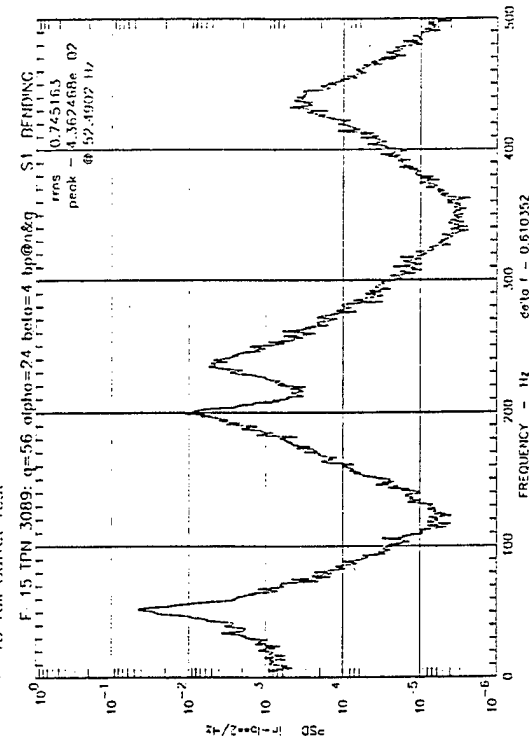
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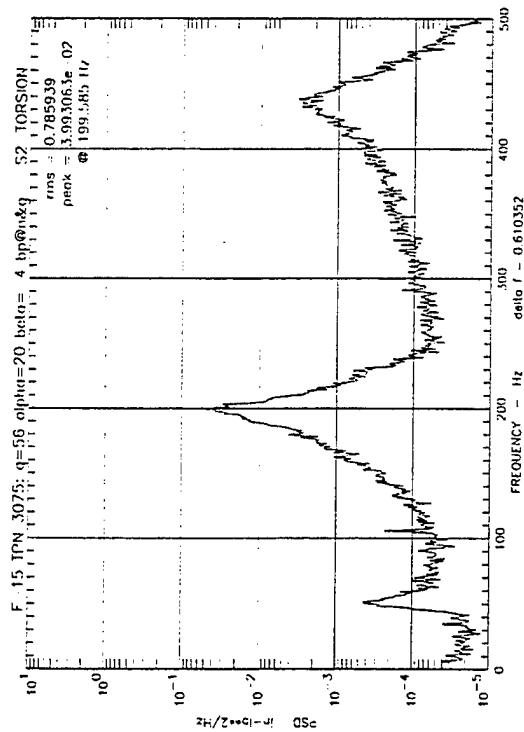
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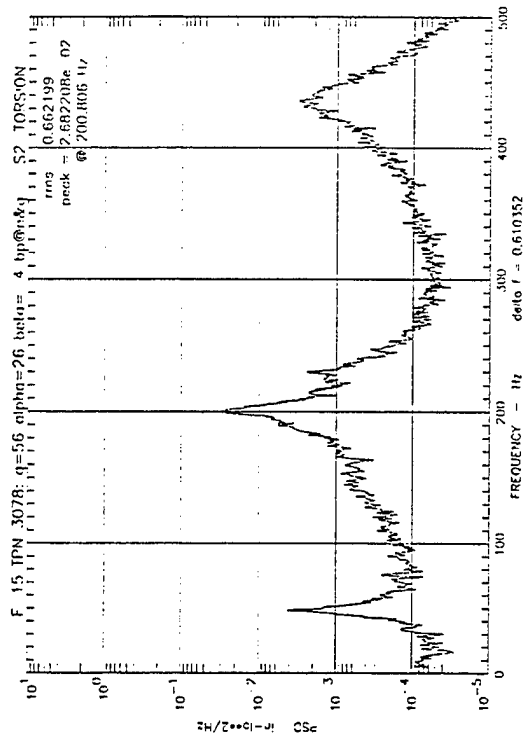
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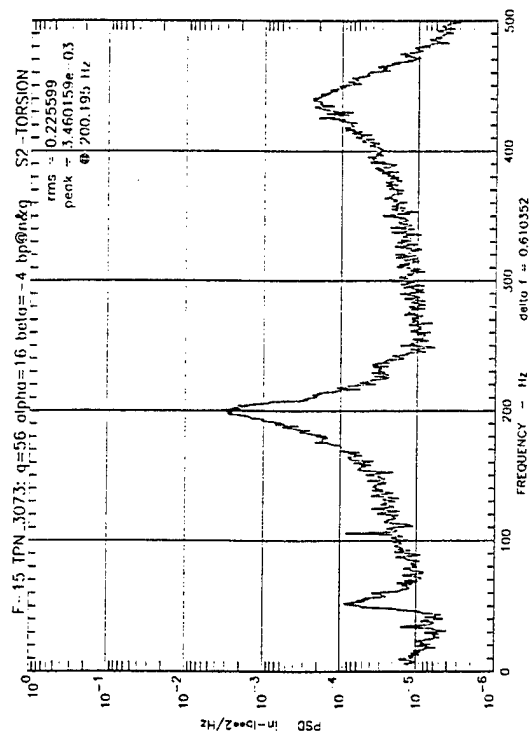
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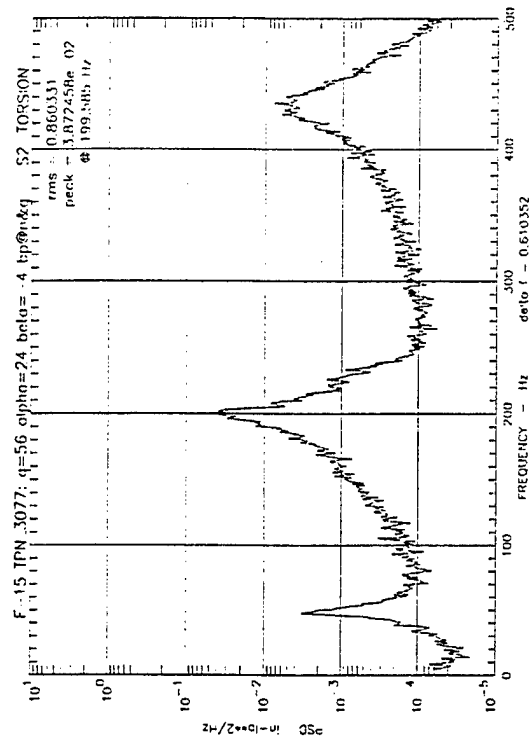
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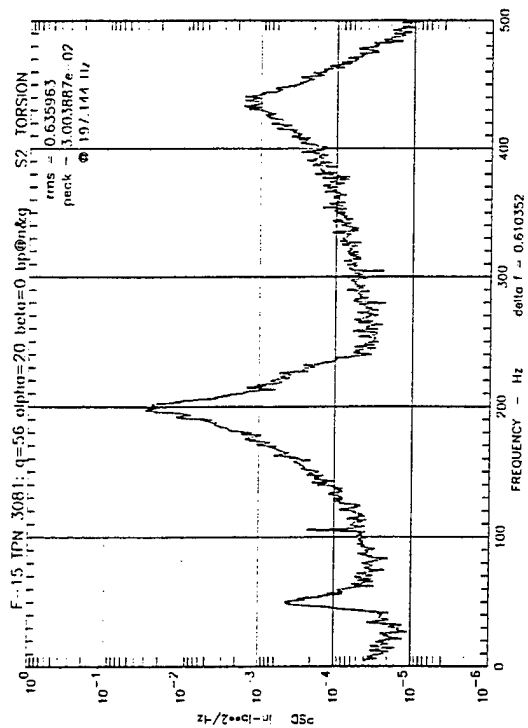
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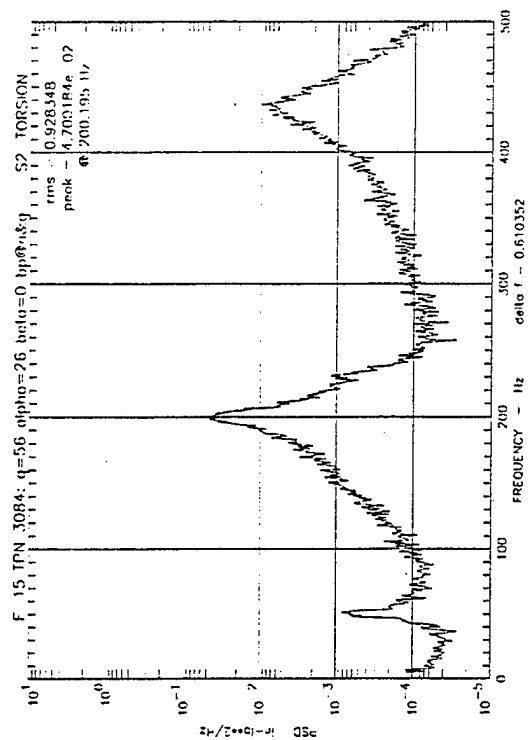
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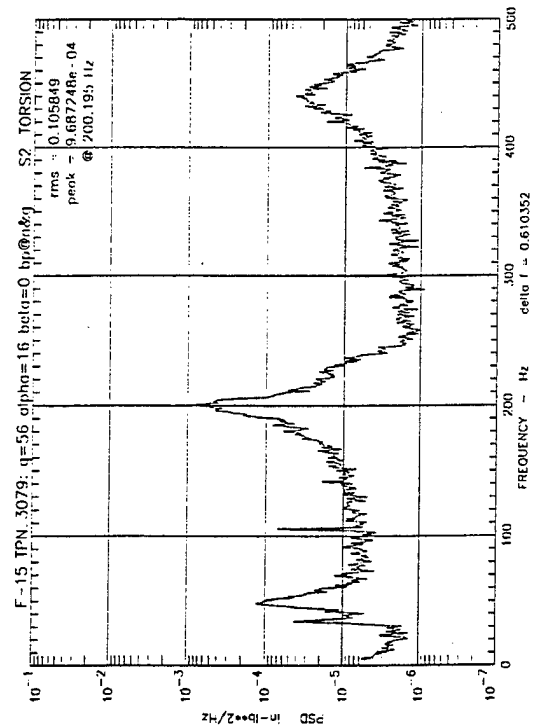
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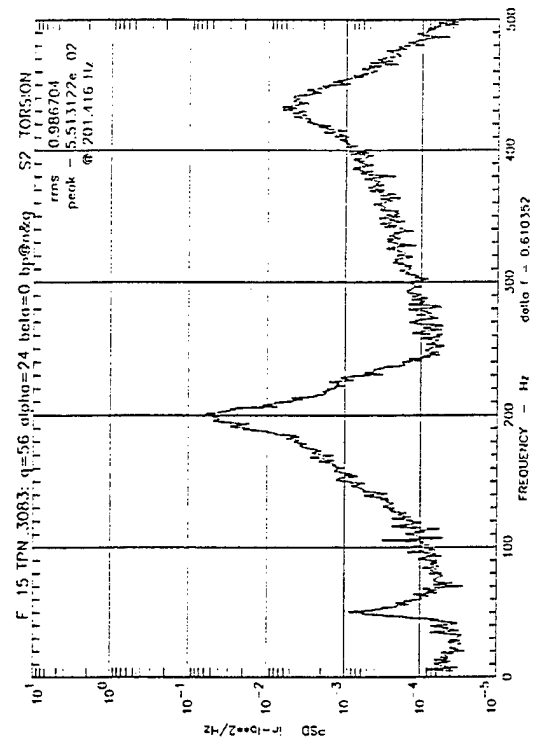
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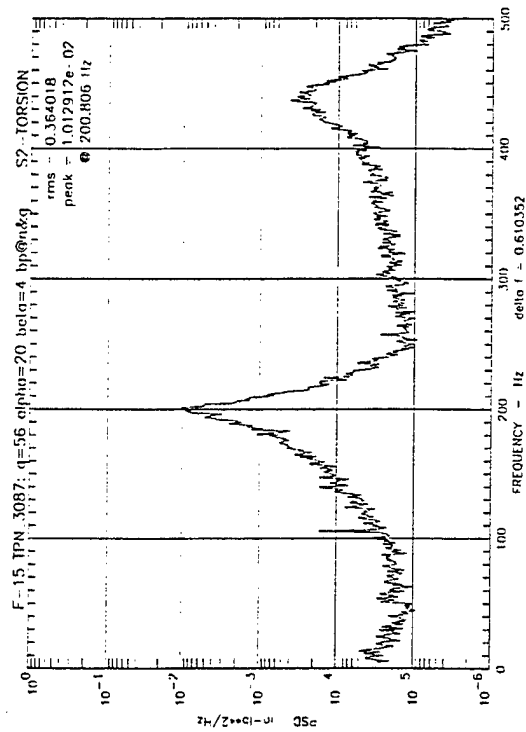
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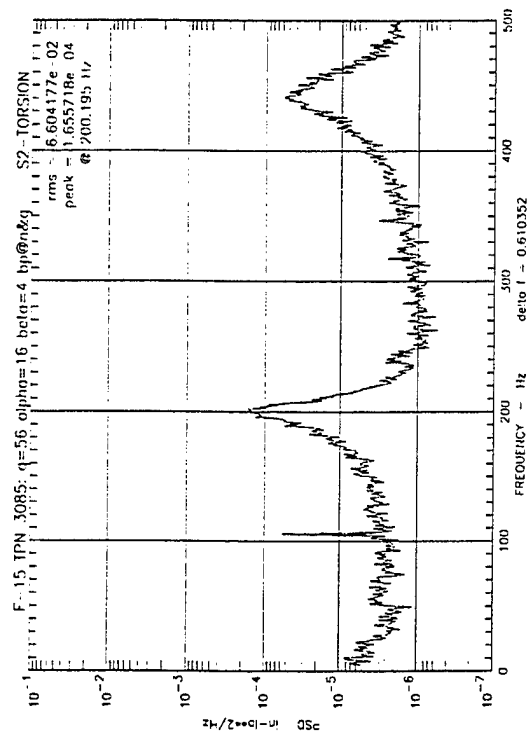
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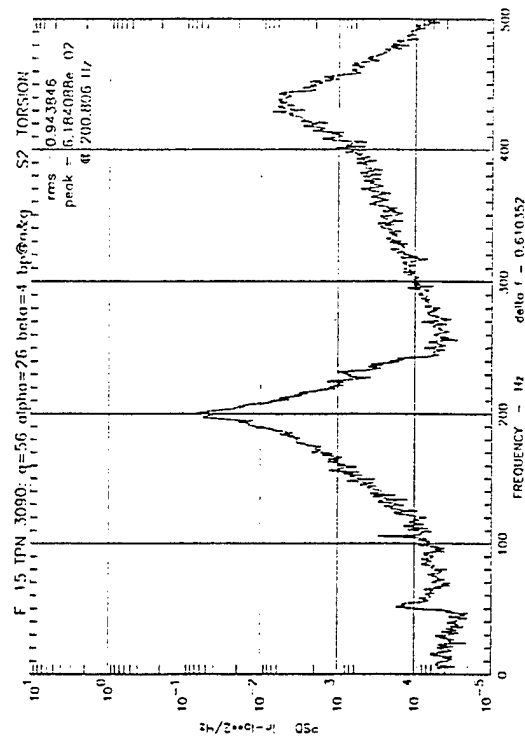
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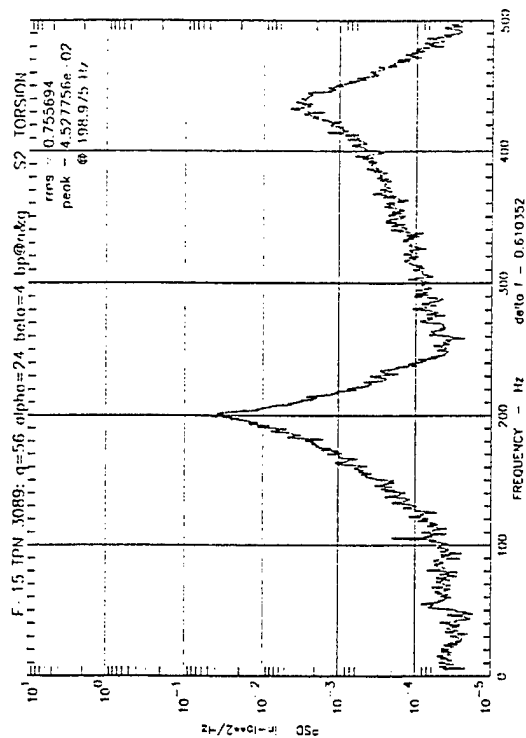
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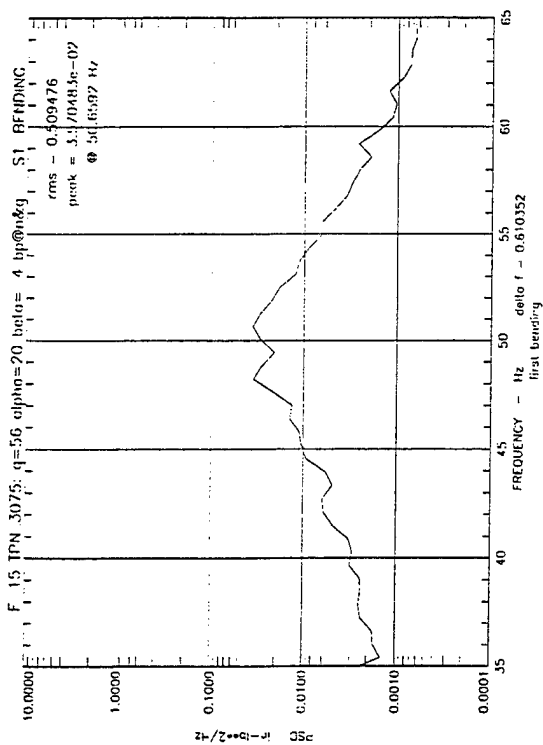
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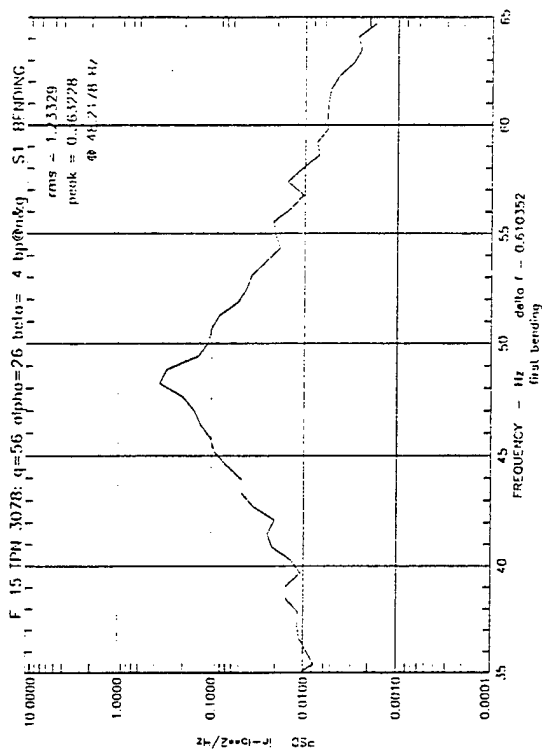
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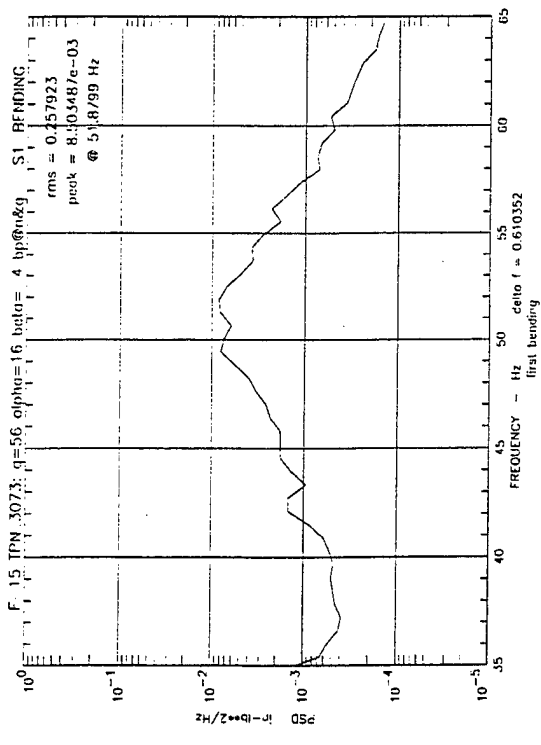
F-15 Tail Buffet Test



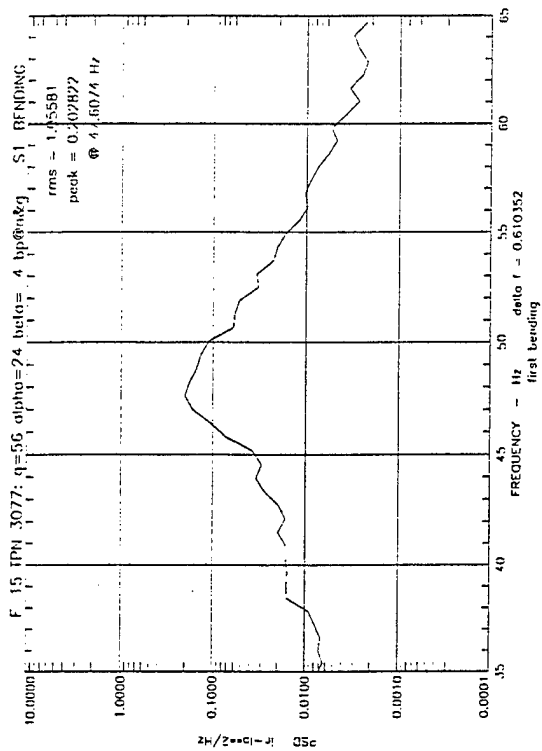
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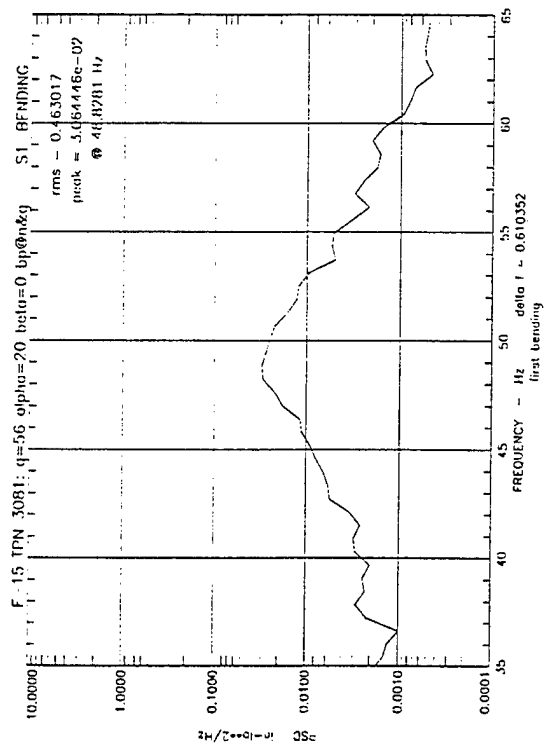
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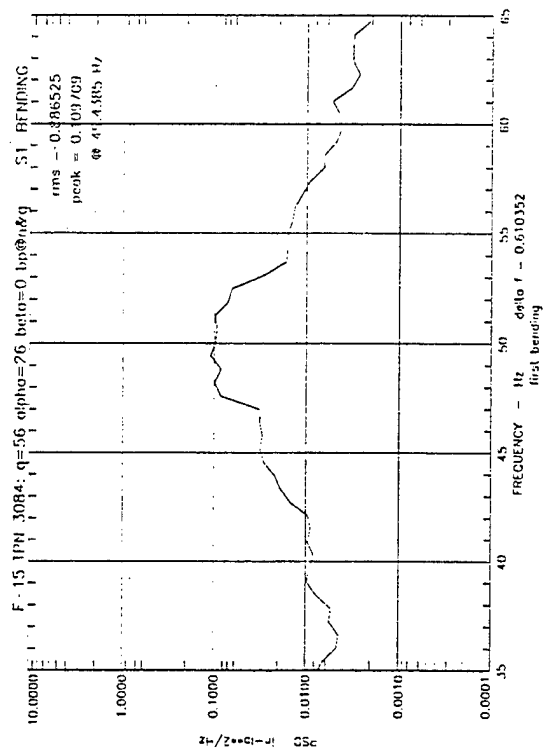
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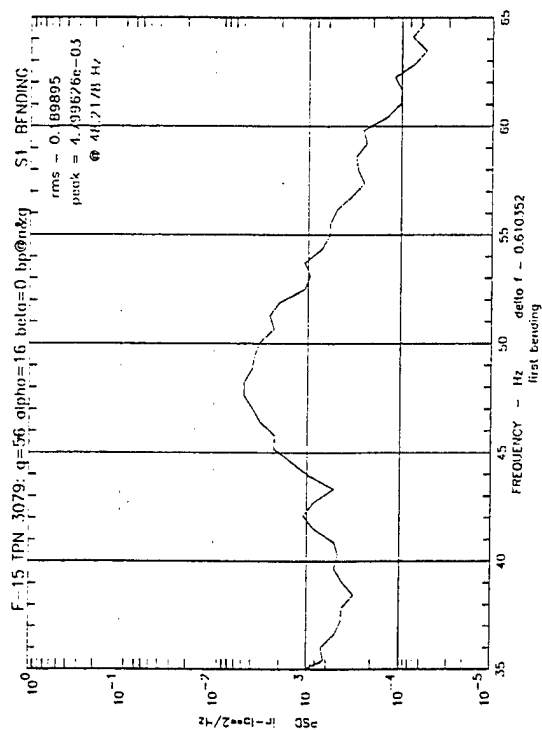
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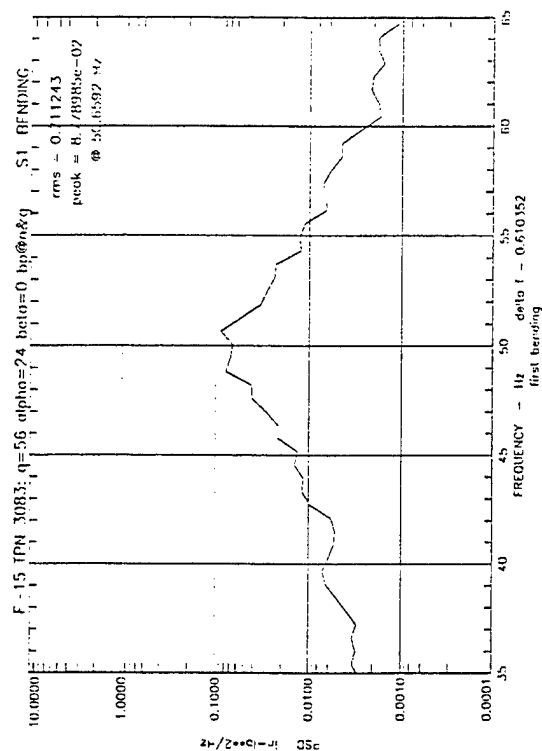
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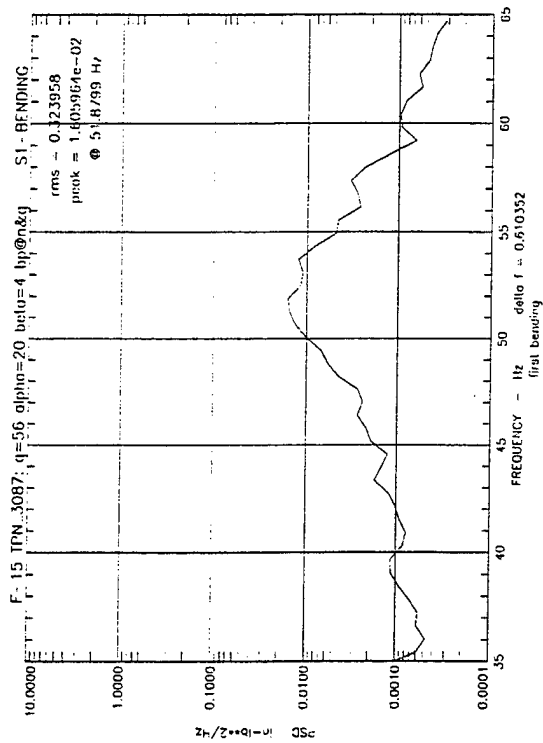
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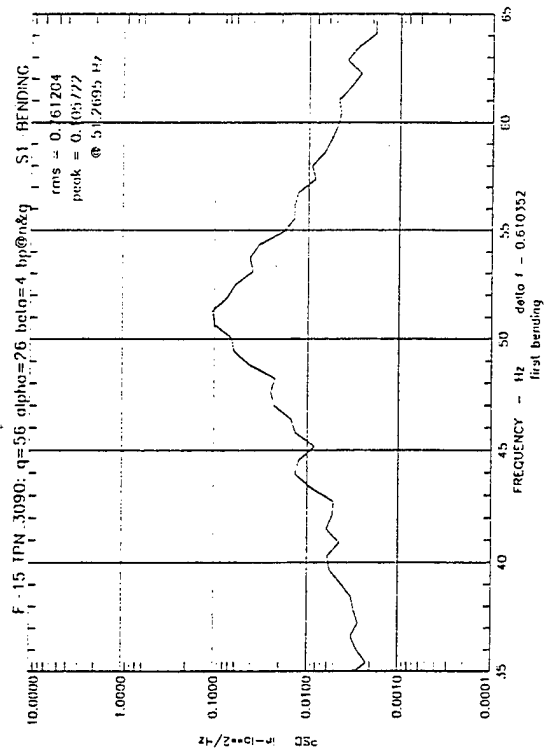
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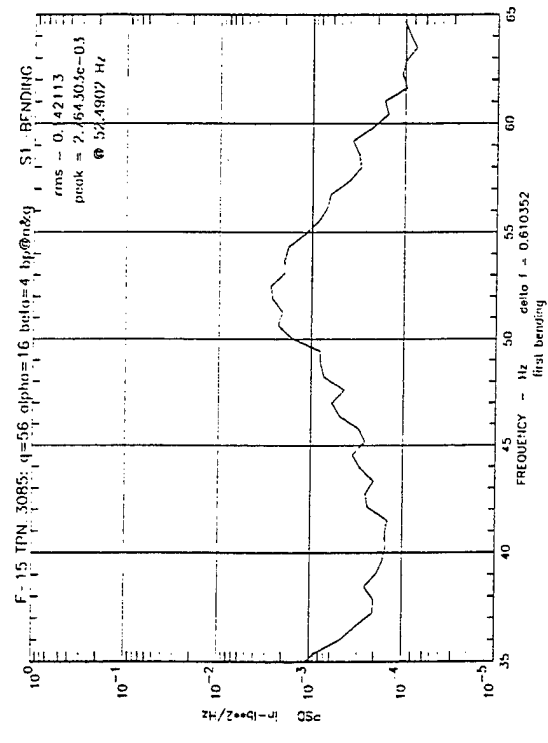
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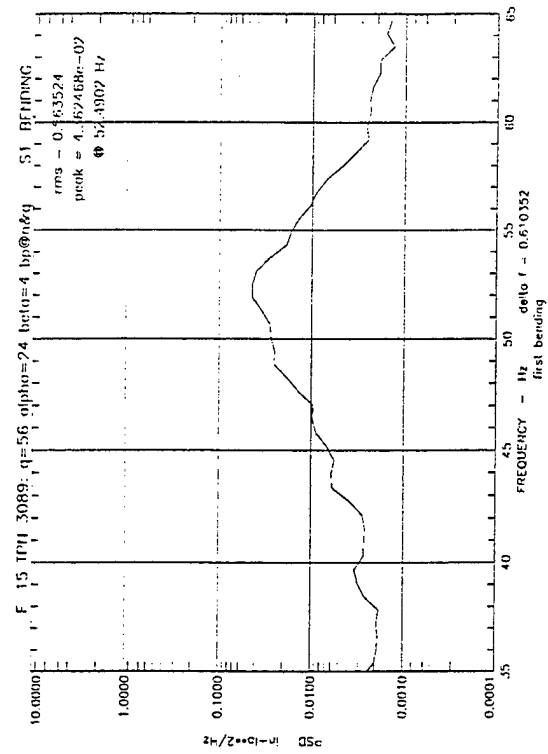
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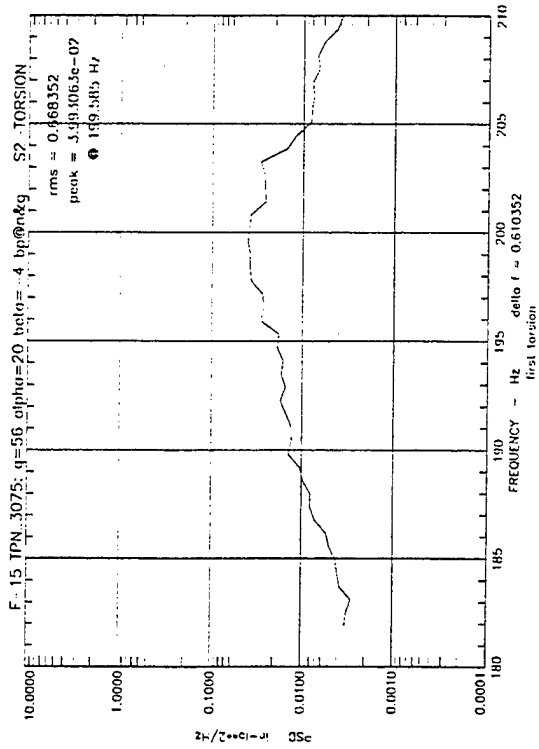
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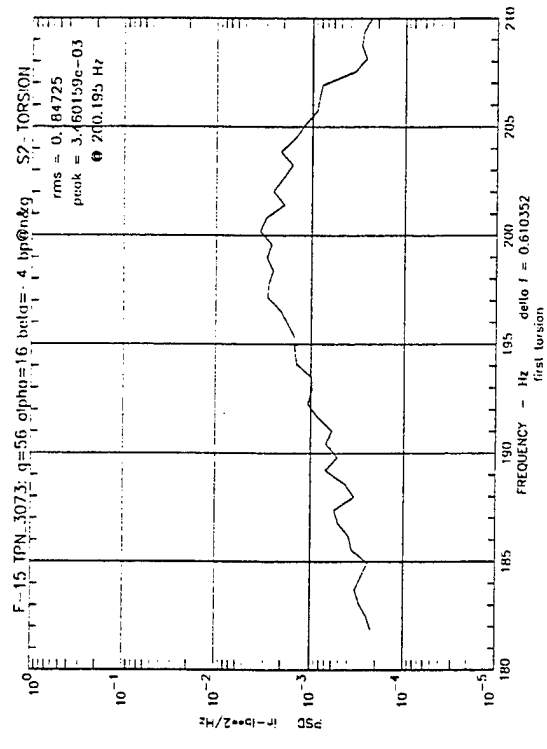
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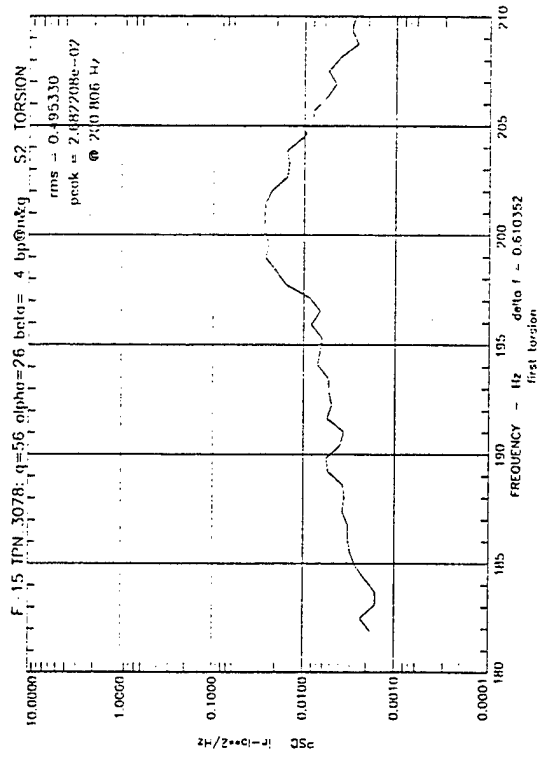
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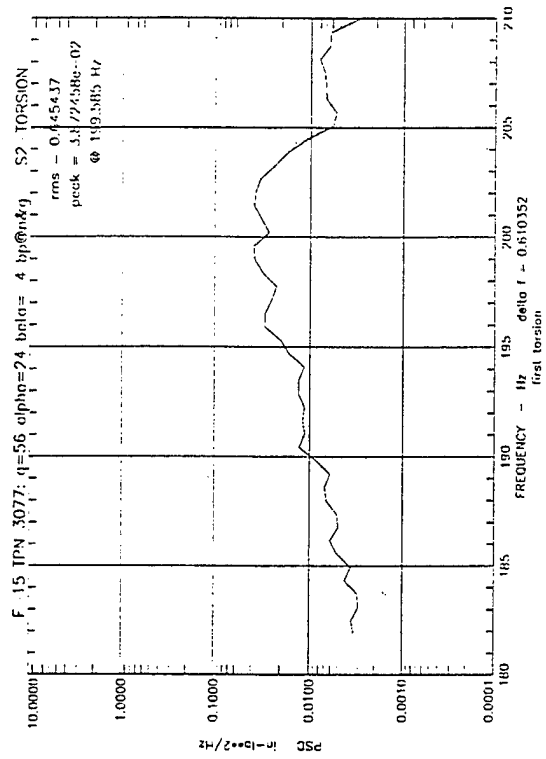
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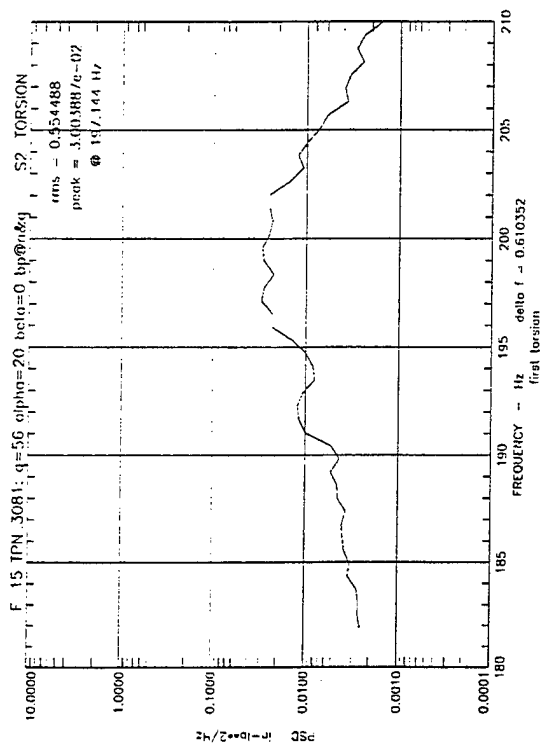
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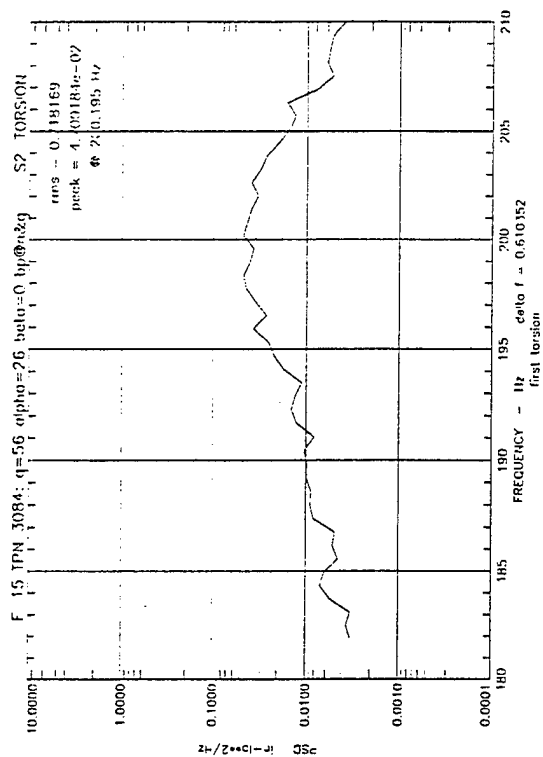
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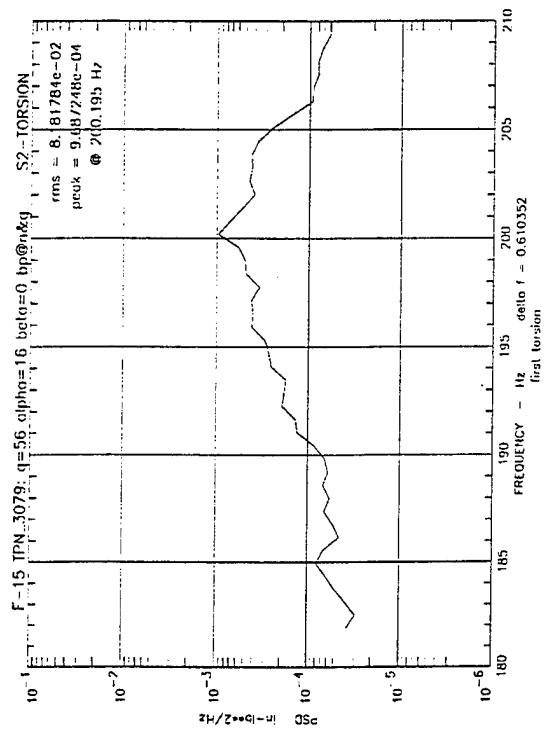
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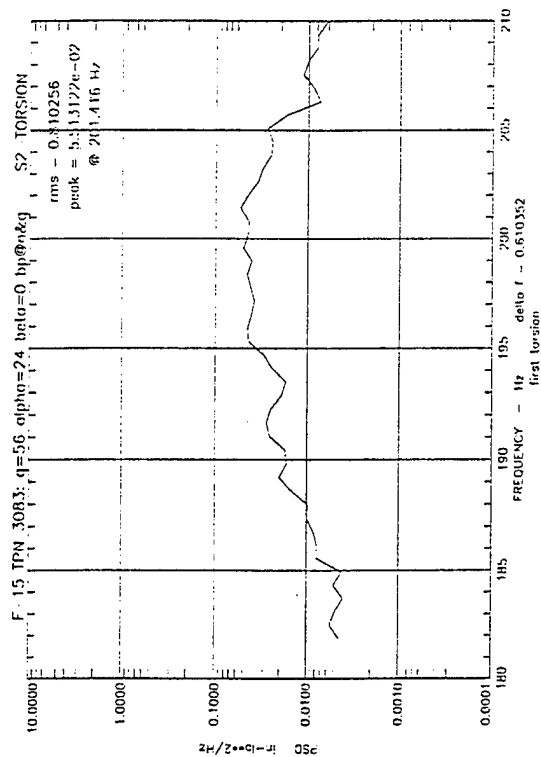
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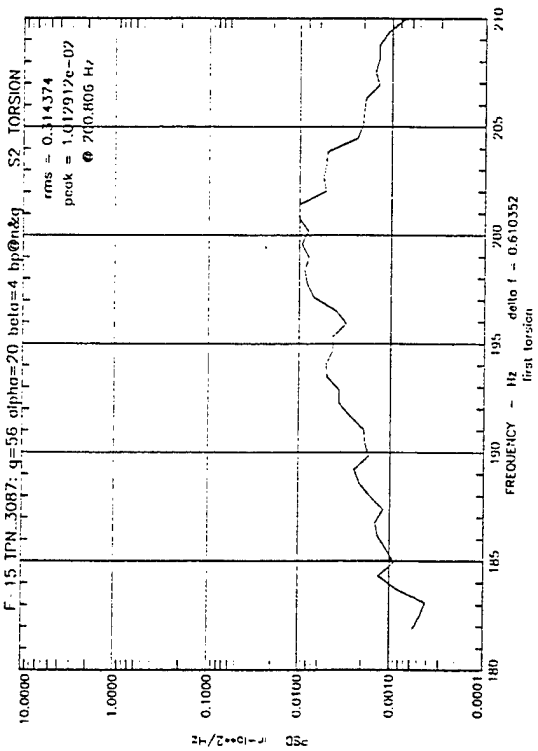
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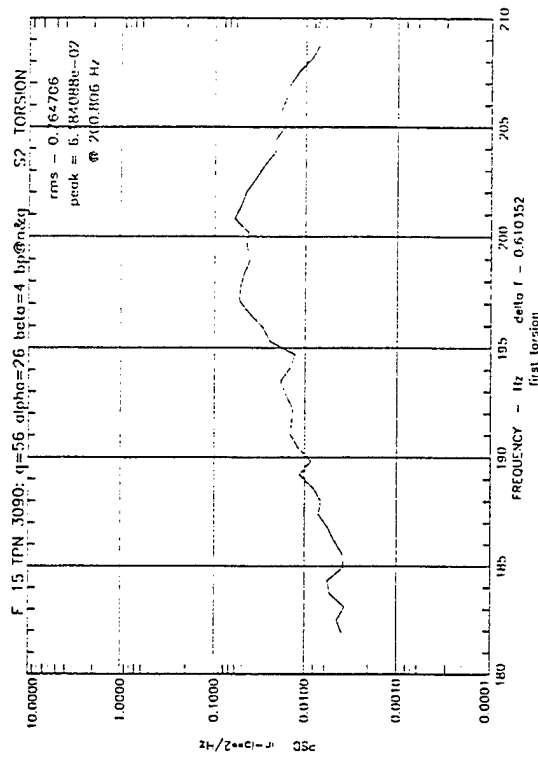
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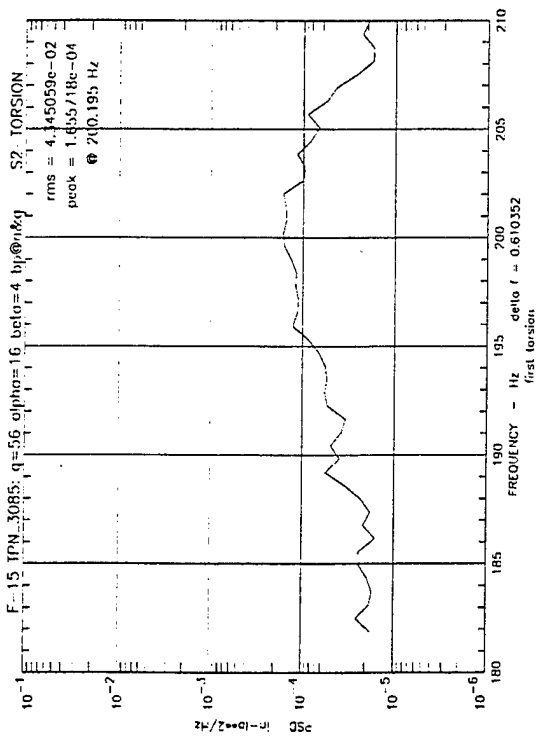
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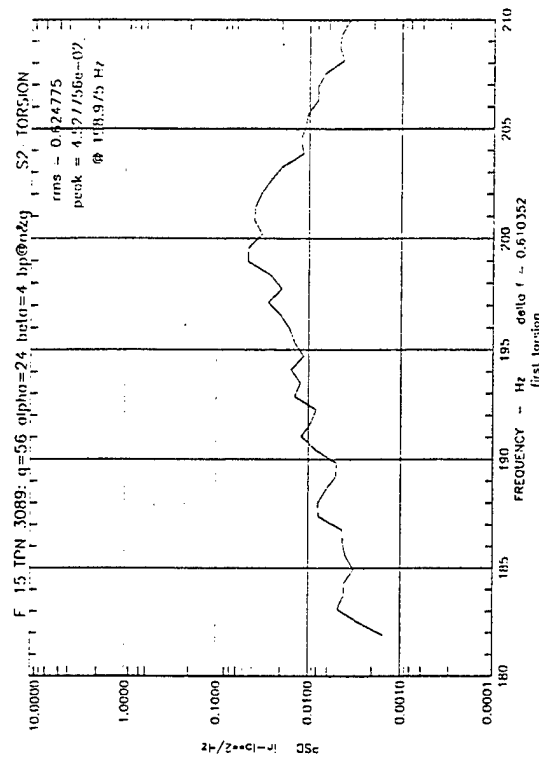
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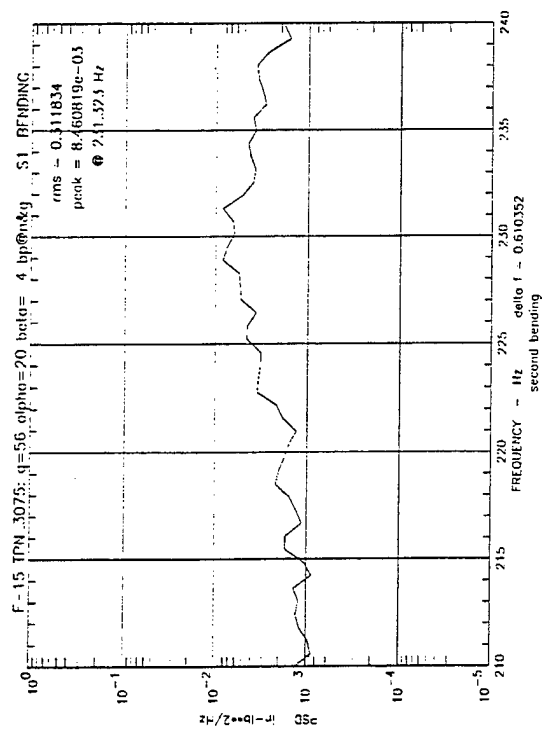
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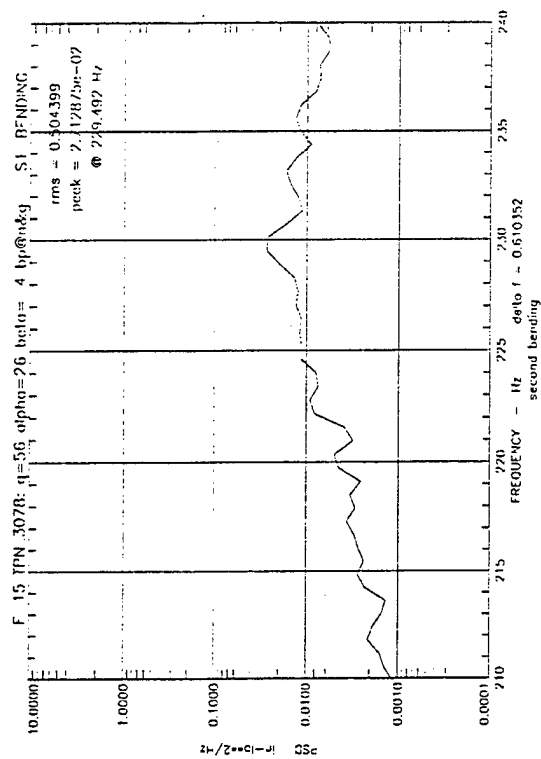
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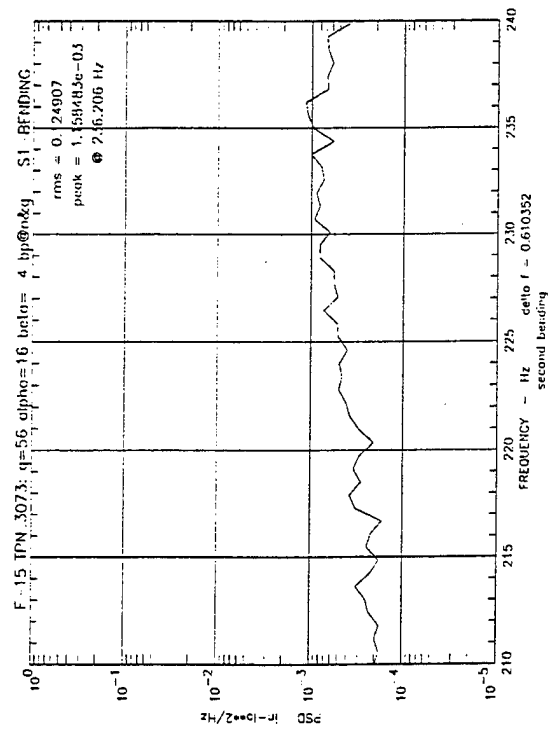
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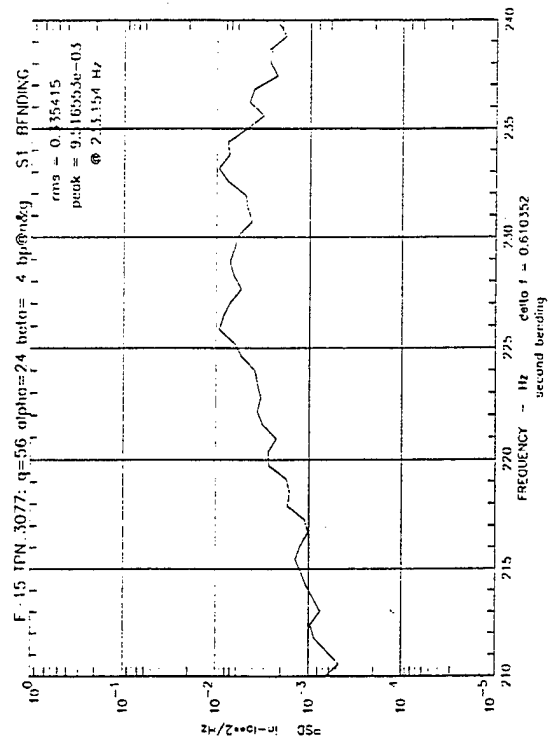
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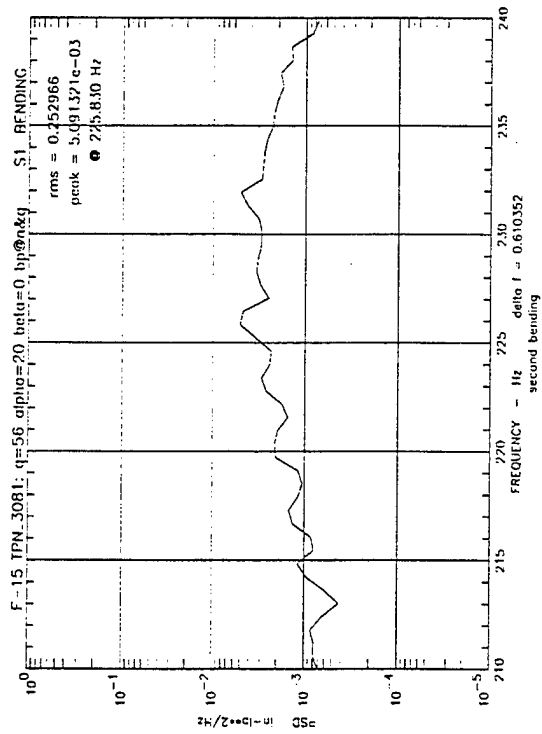
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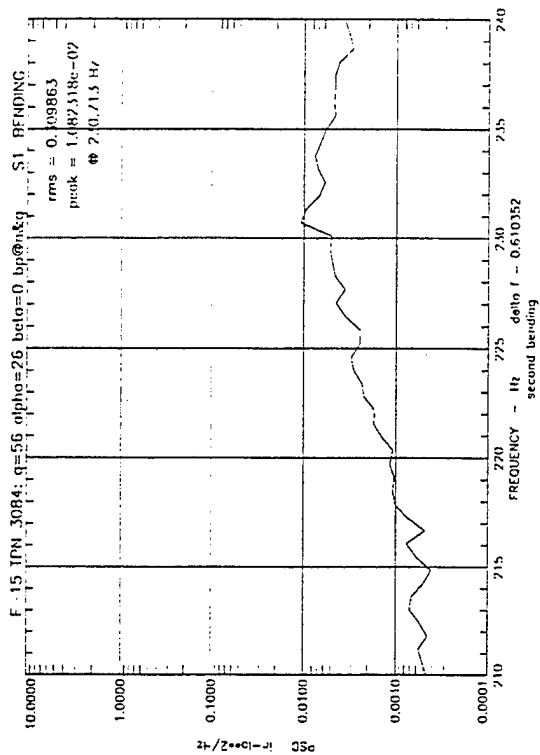
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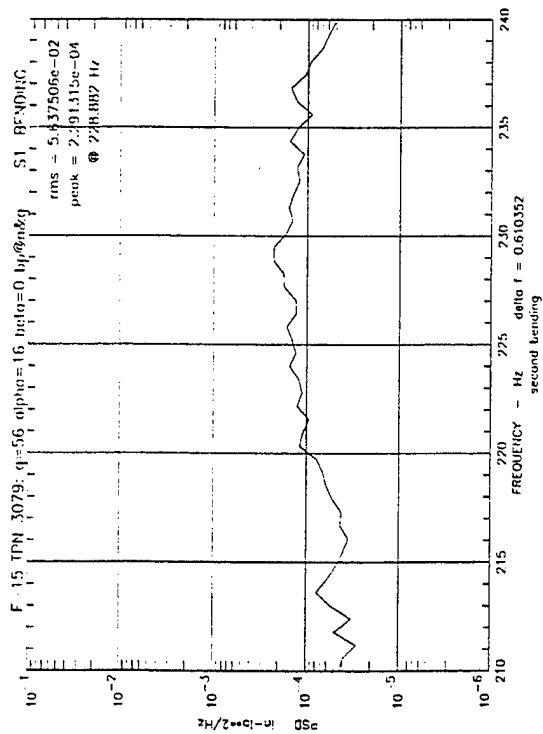
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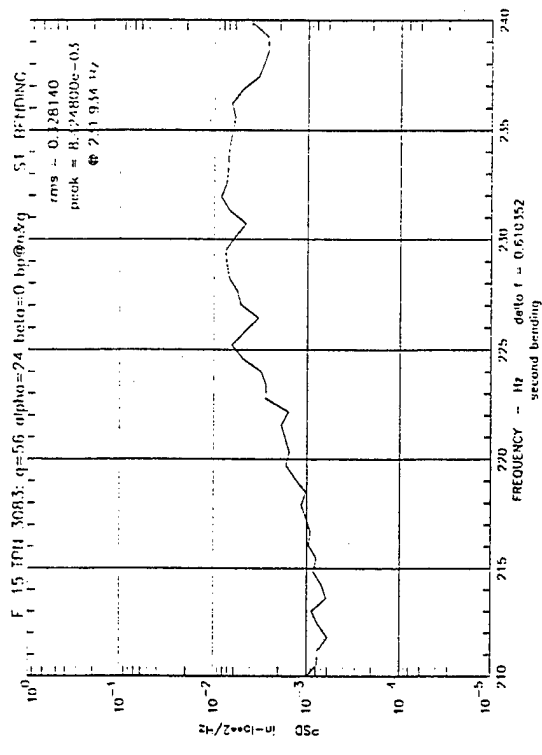
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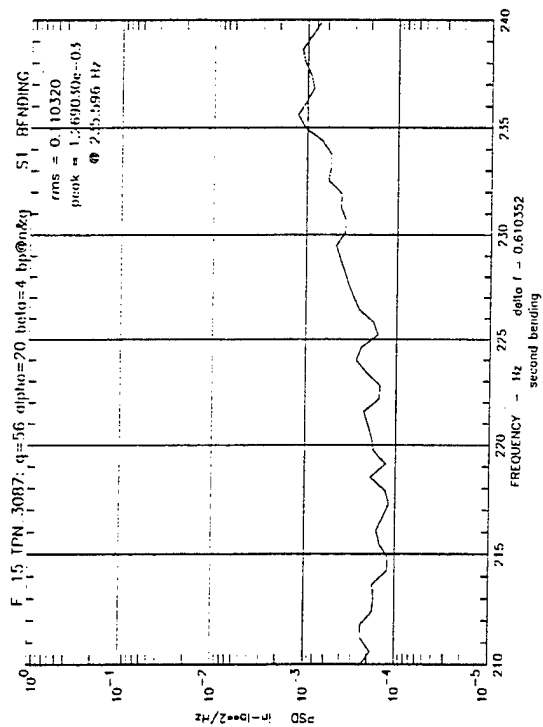
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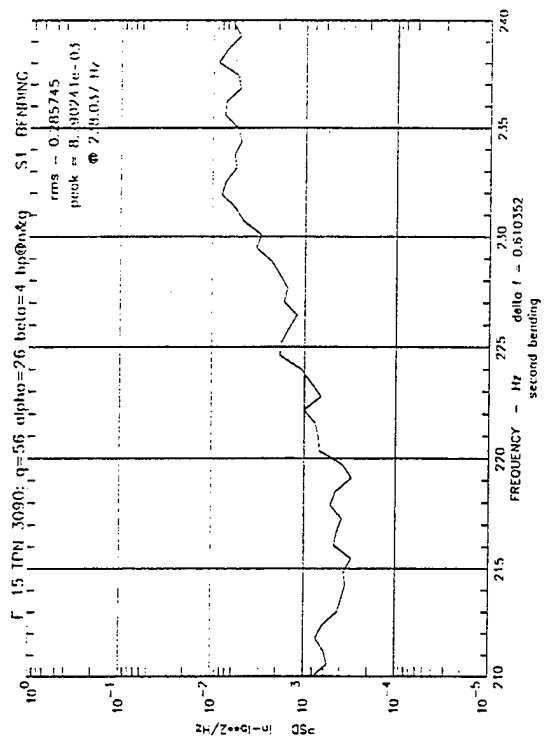
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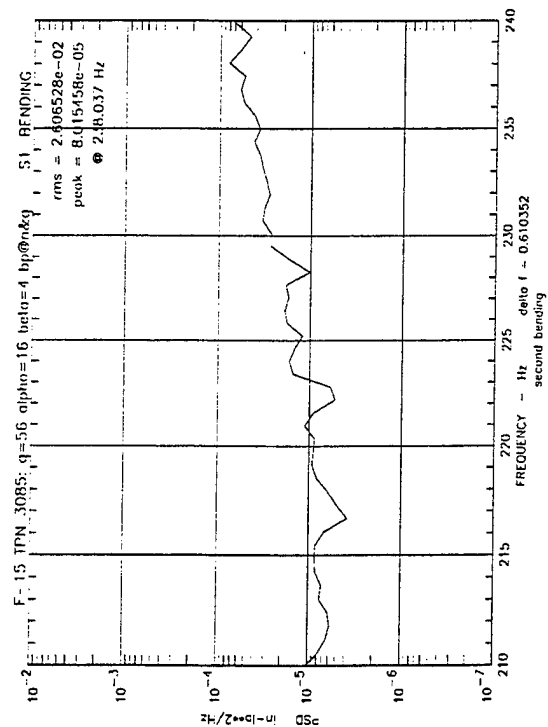
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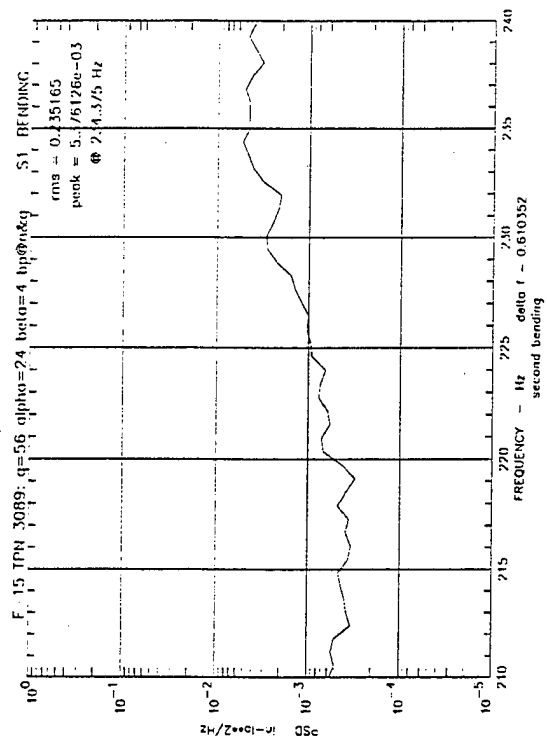
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F-15 Tail Buffet Test



F-15 Tail Buffet Test

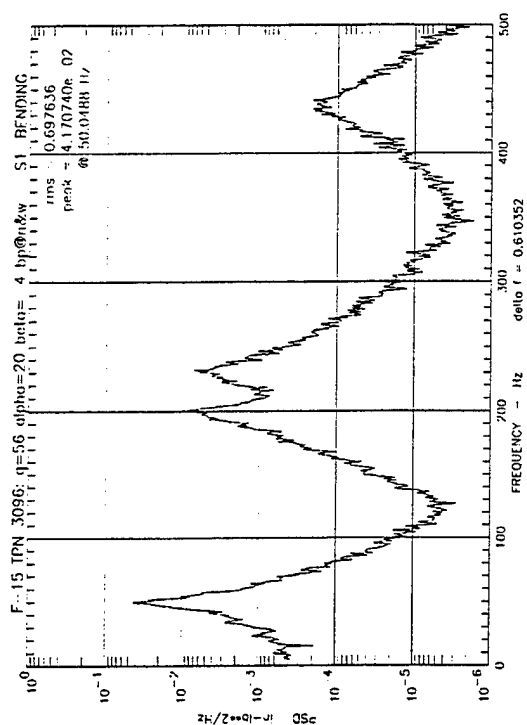


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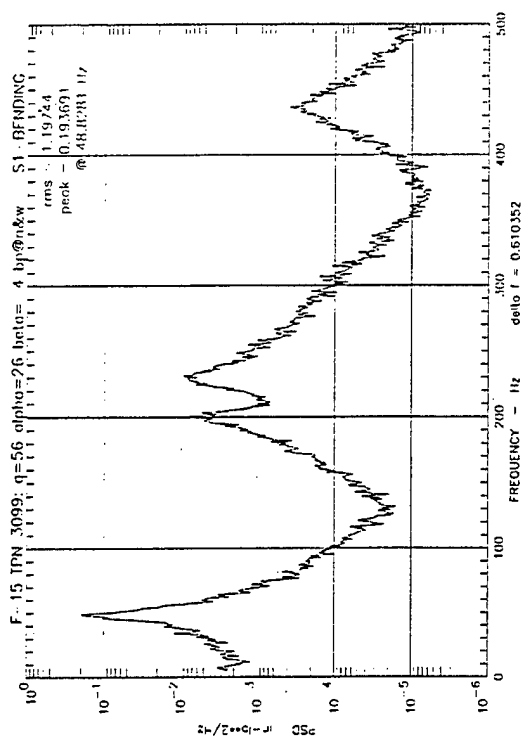
Q= 56 PSF

2.1.1.6 NBP = 87 psi, WBP = 65 psi, BETA= 0, +4, -4, ALPHA = 0....32 Deg

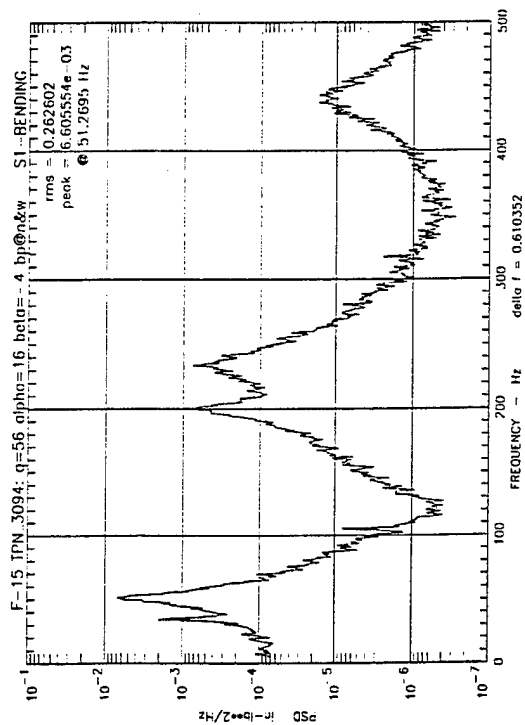
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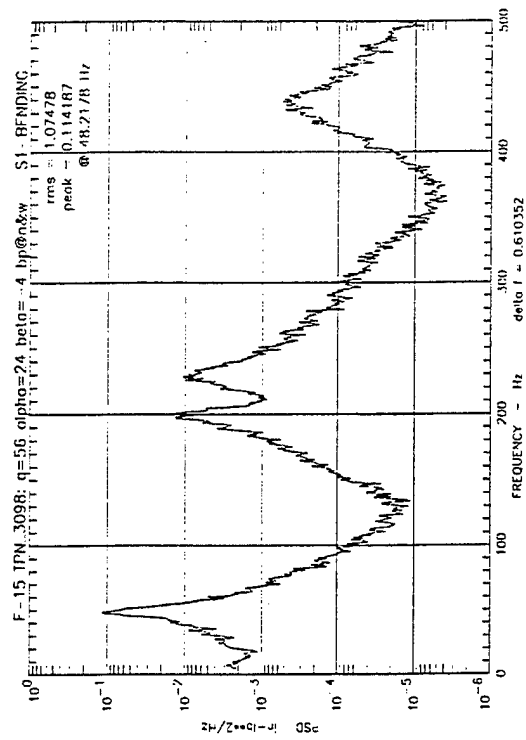
F-15 Tail Buffet Test



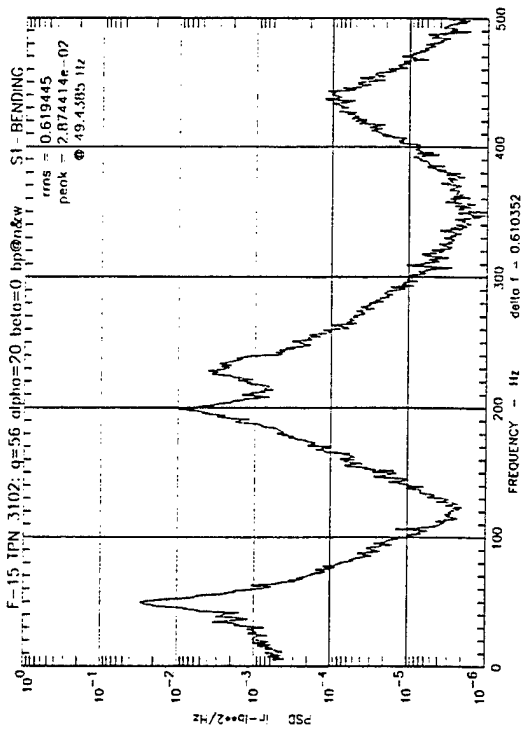
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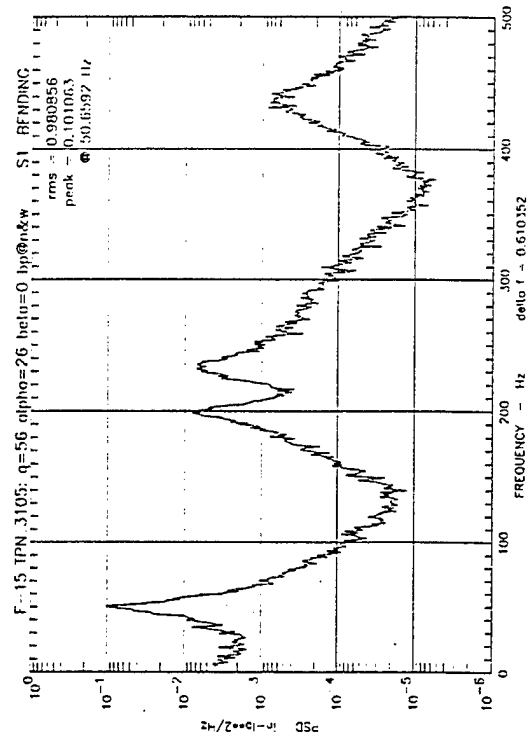
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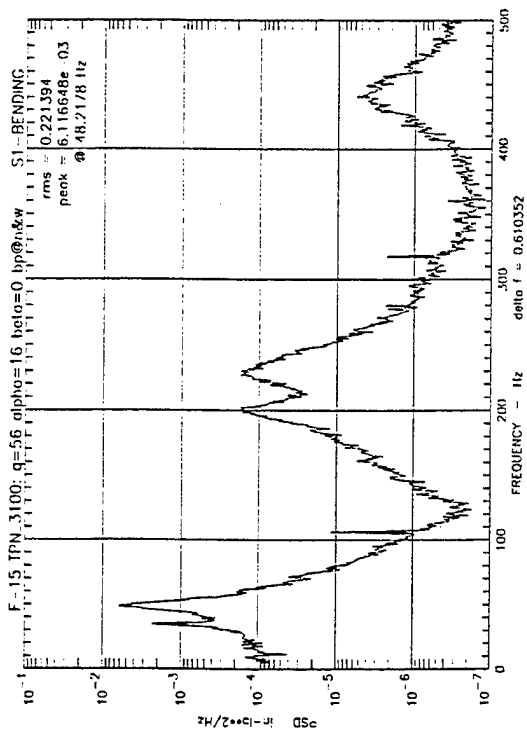
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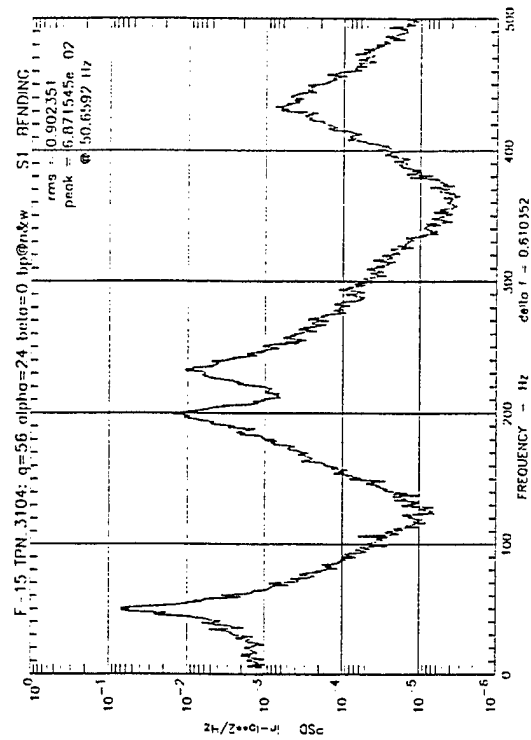
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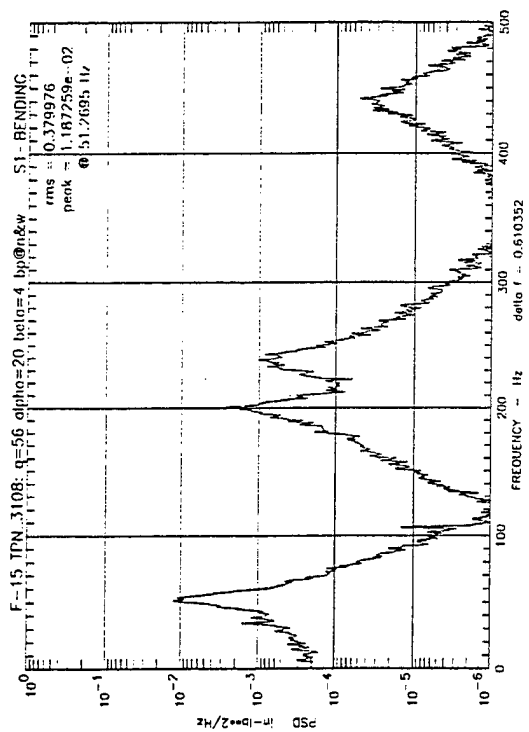
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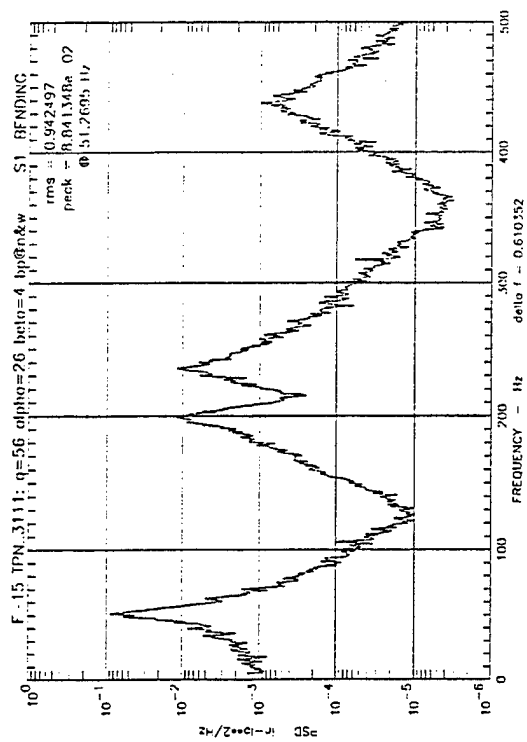
F-15 Tail Buffet Test



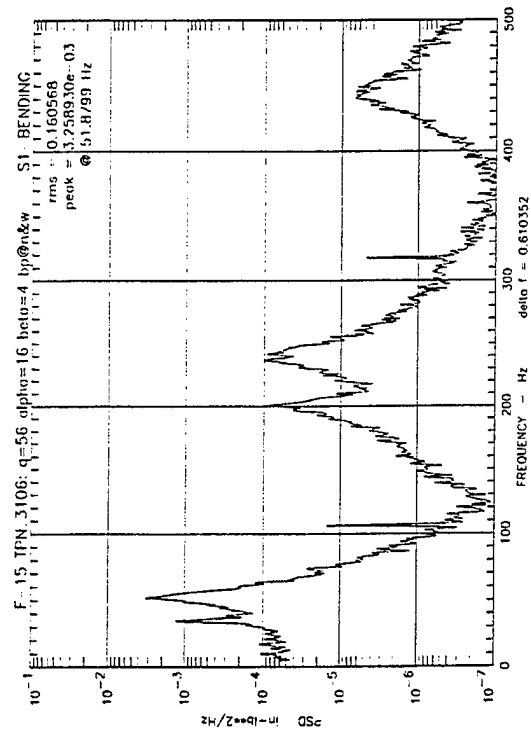
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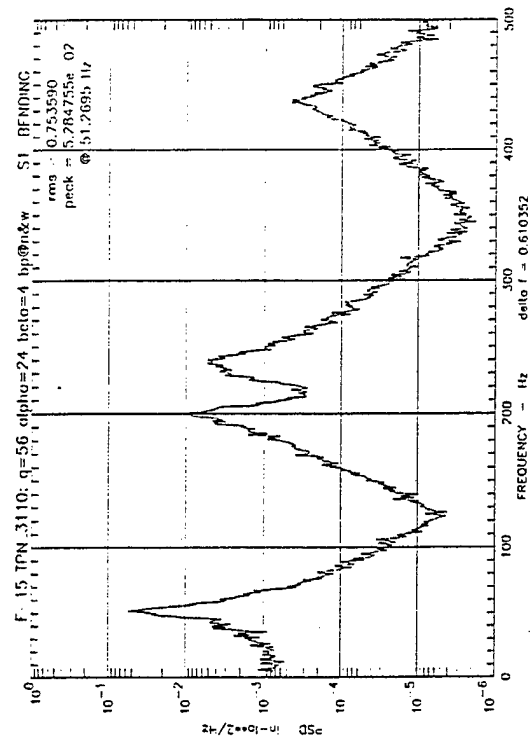
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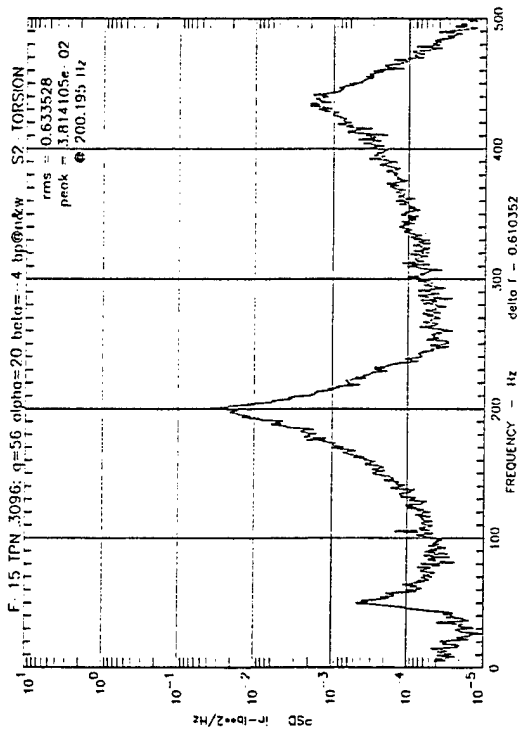
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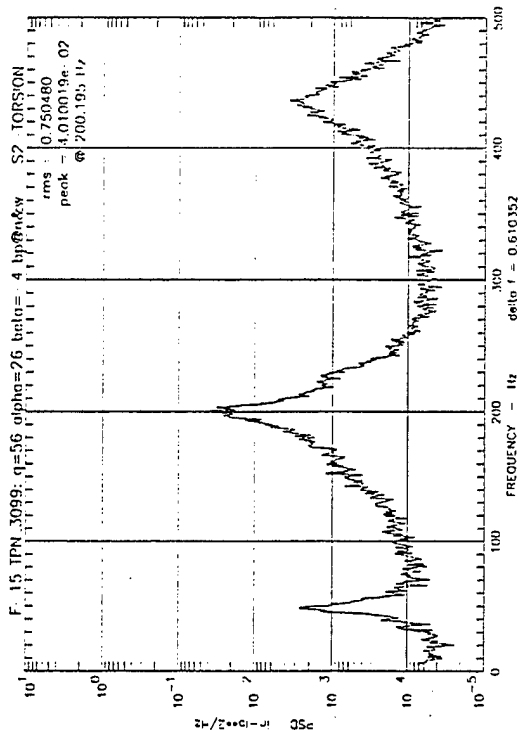
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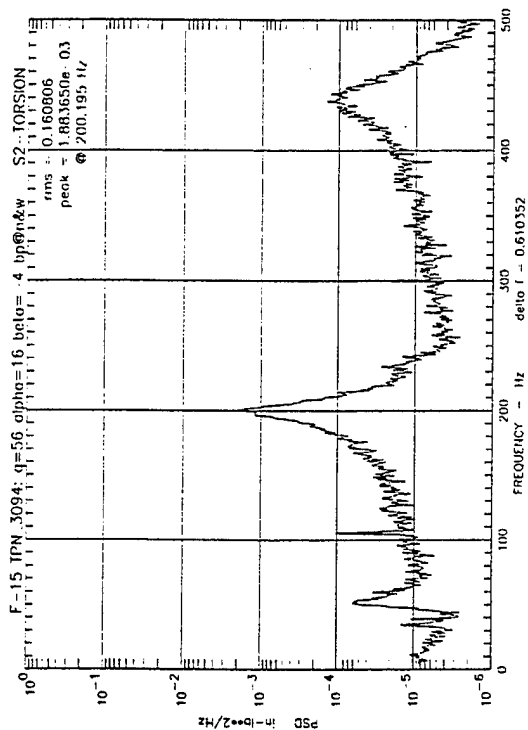
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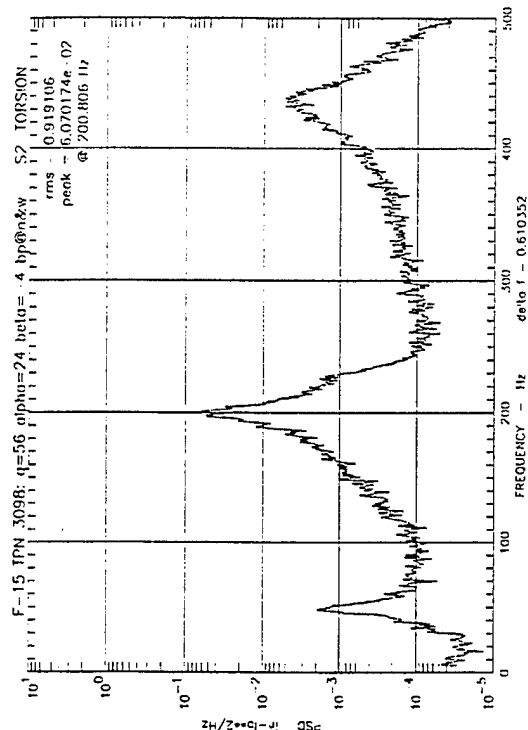
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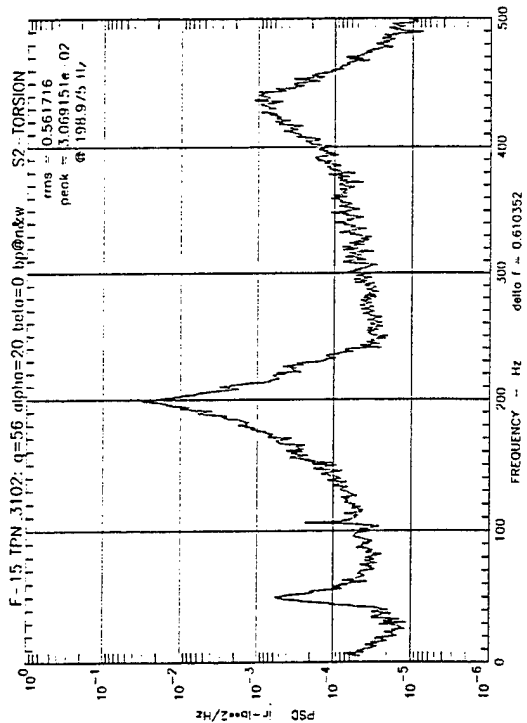
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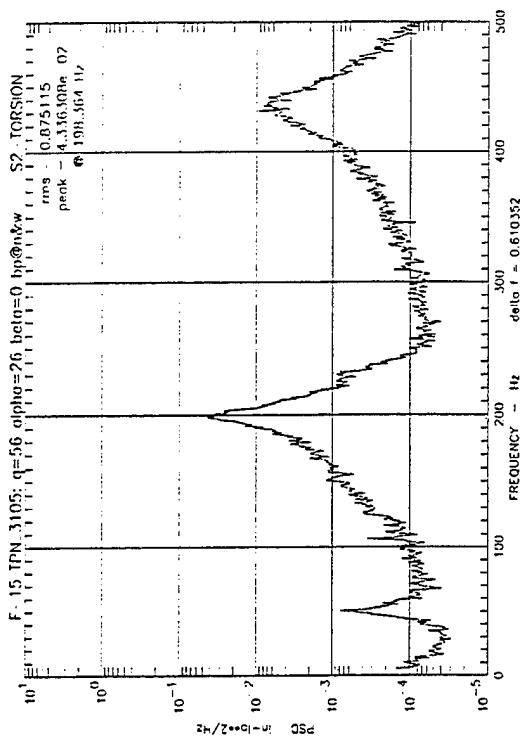
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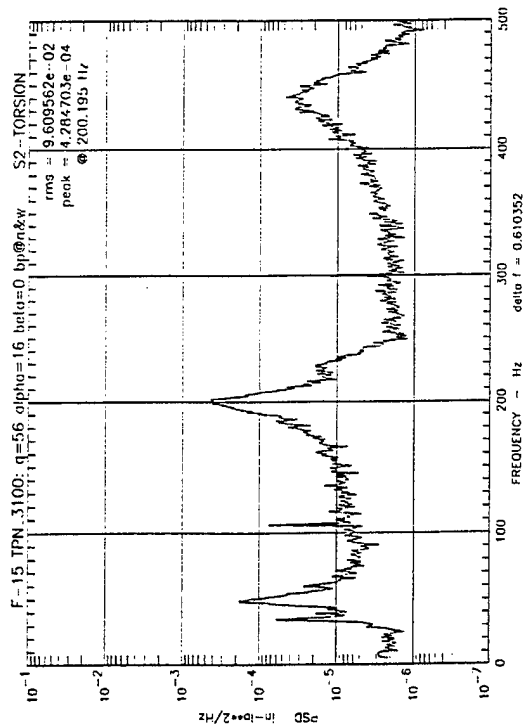
F-15 Tail Buffet Test



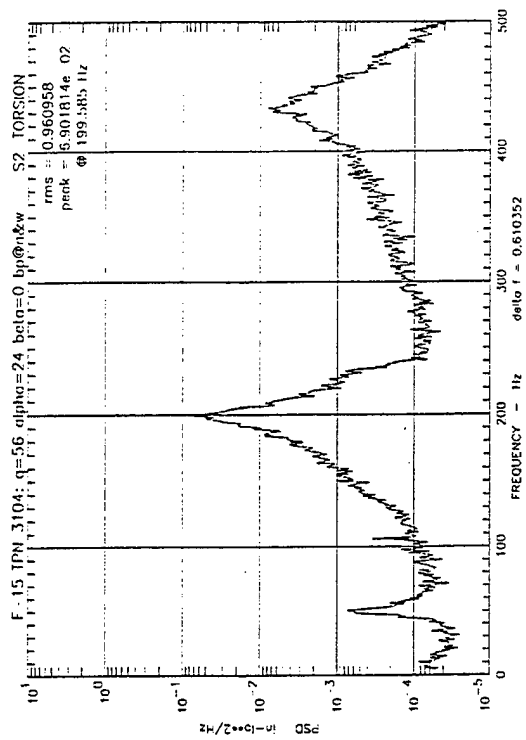
F-15 Tail Buffet Test



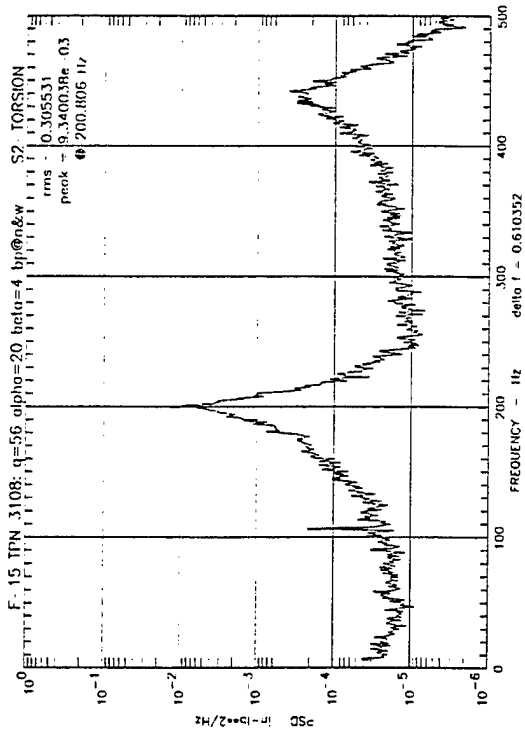
F-15 Tail Buffet Test



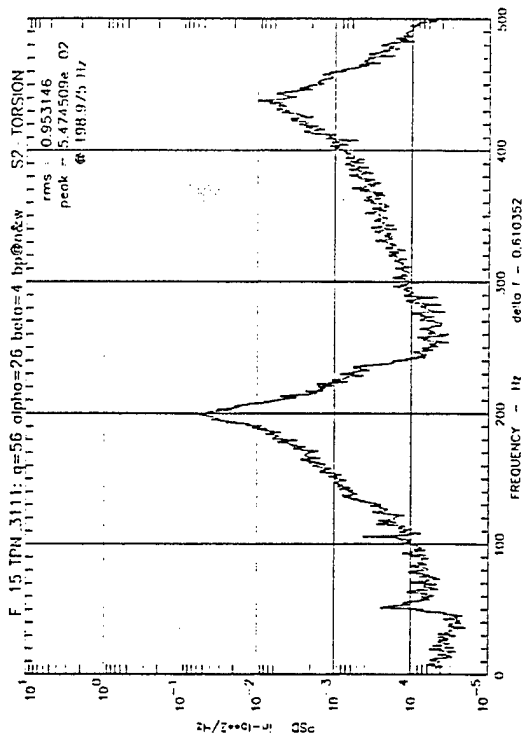
F-15 Tail Buffet Test



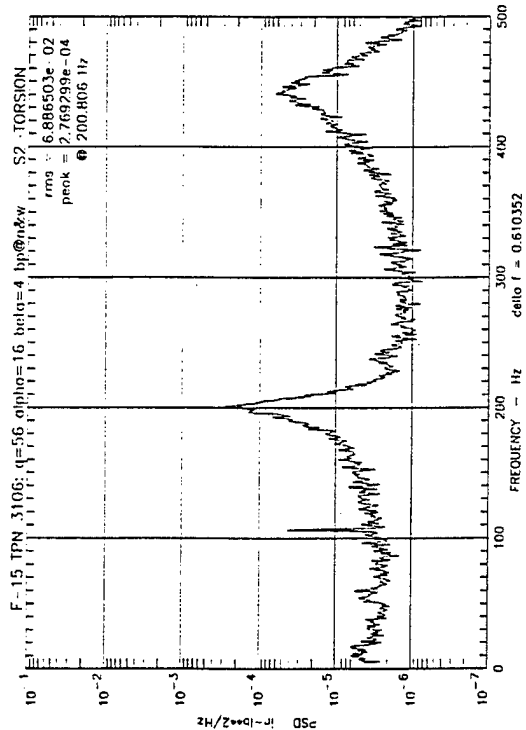
F-15 Tail Buffet Test



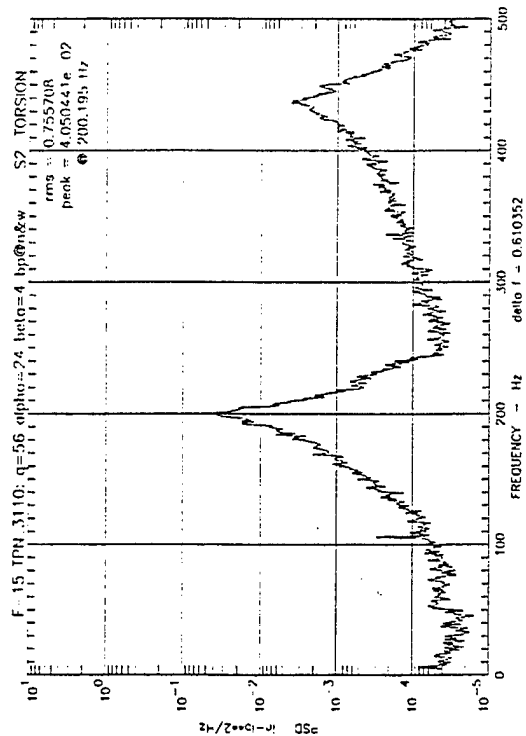
F-15 Tail Buffet Test



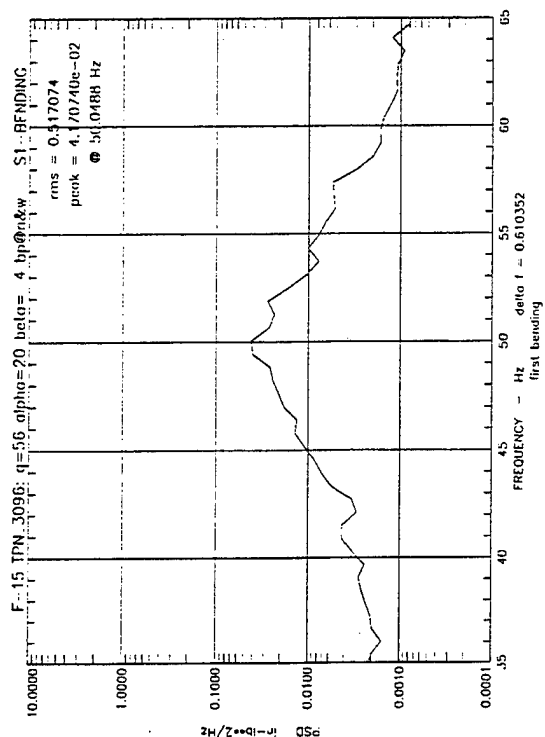
F-15 Tail Buffet Test



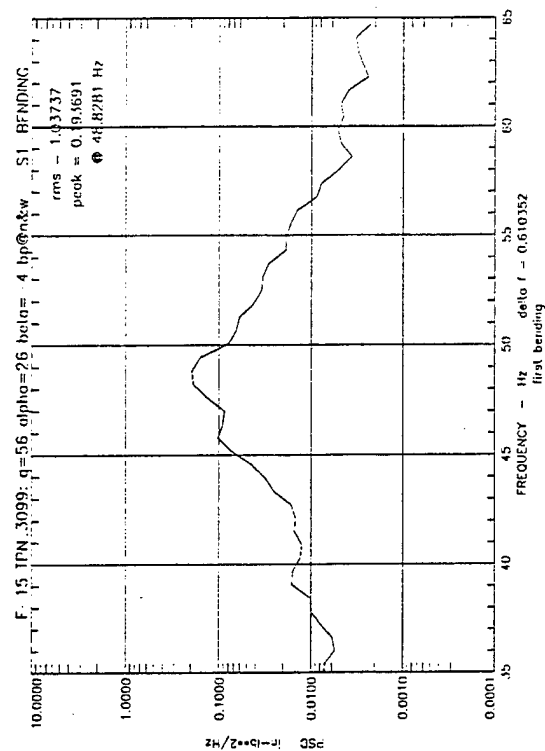
F-15 Tail Buffet Test



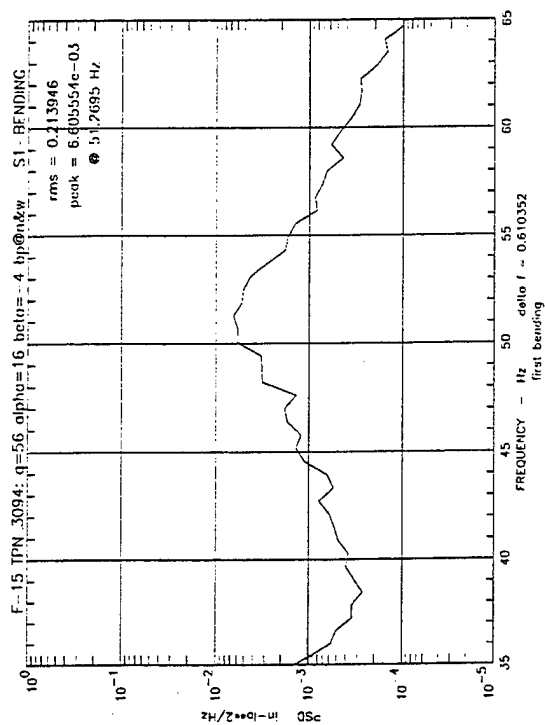
F-15 Tail Buffet Test



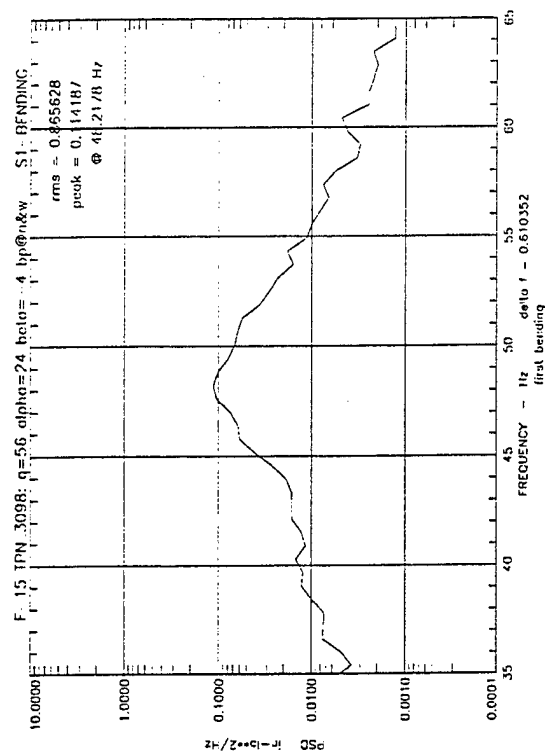
F-15 Tail Buffet Test



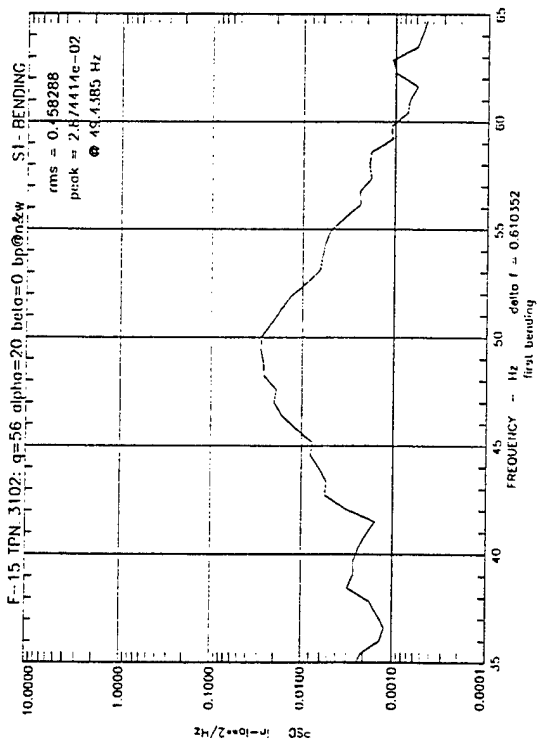
F-15 Tail Buffet Test



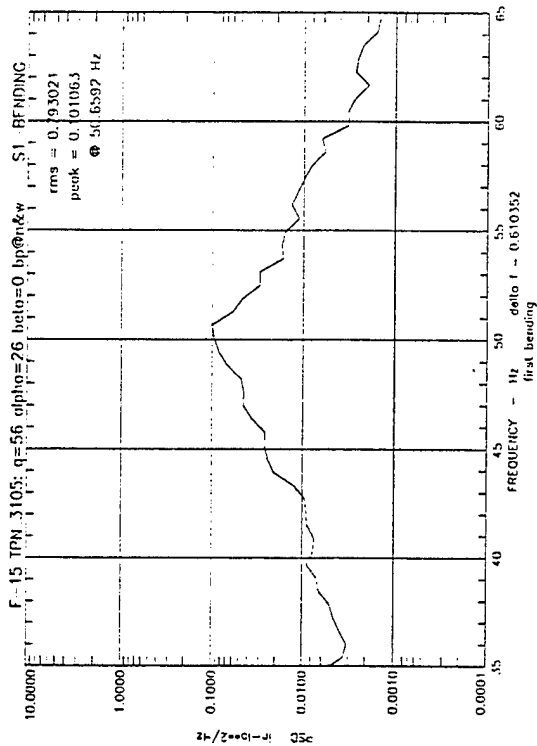
F-15 Tail Buffet Test



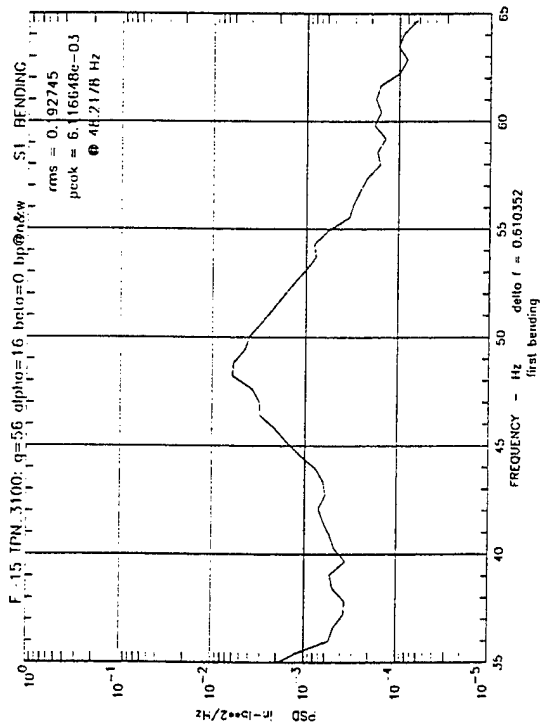
F-15 Tail Buffet Test



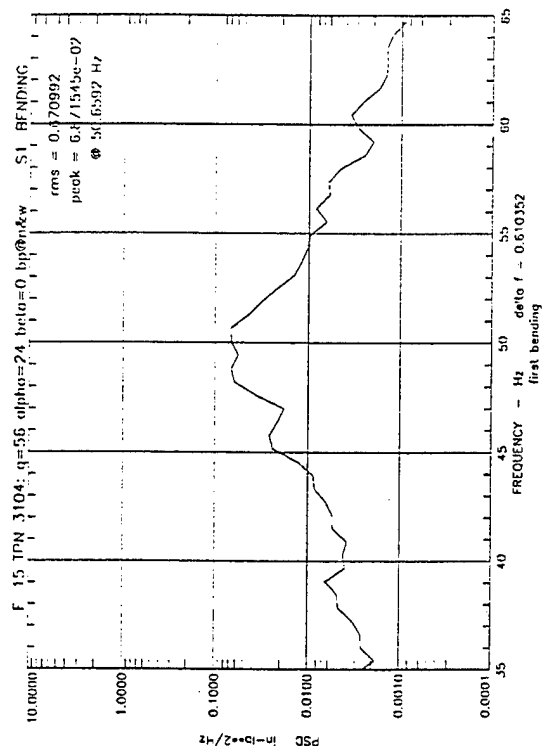
F-15 Tail Buffet Test



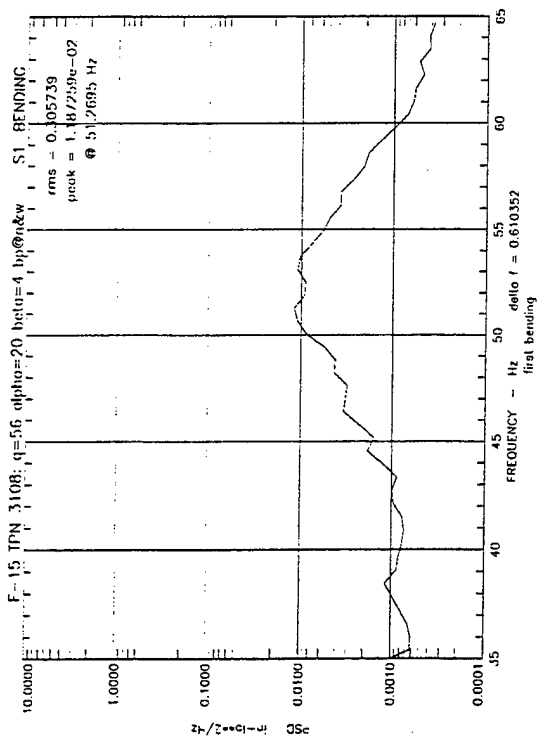
F-15 Tail Buffet Test



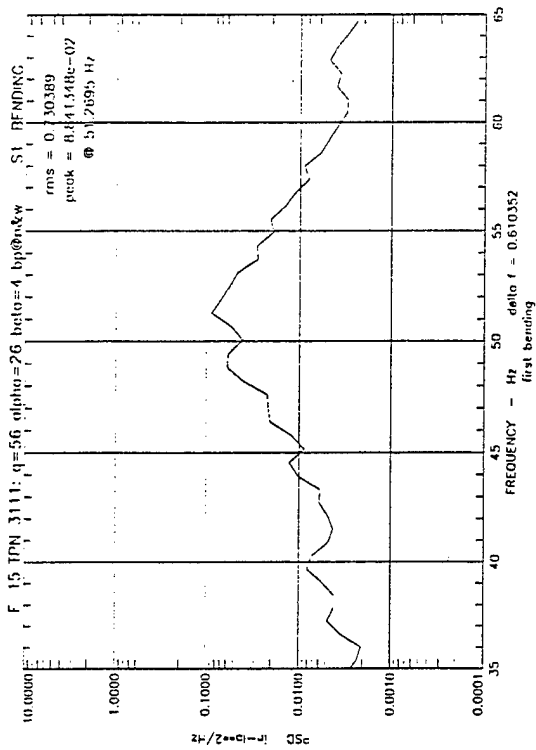
F-15 Tail Buffet Test



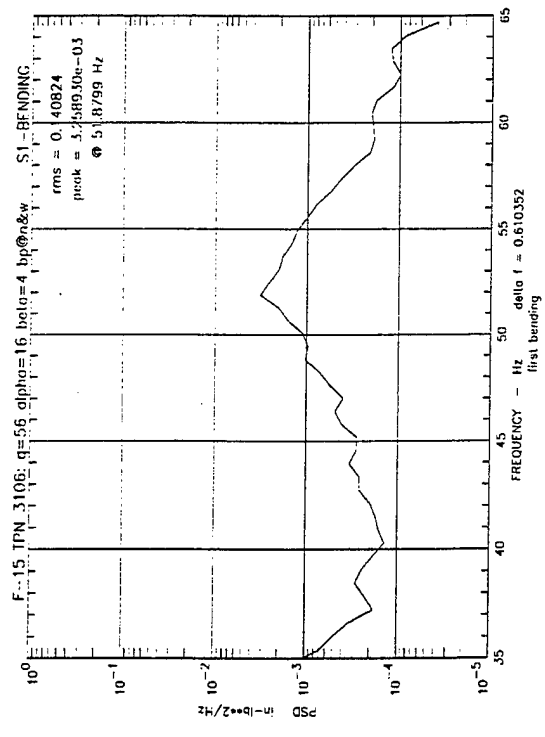
F-15 Tail Buffet Test



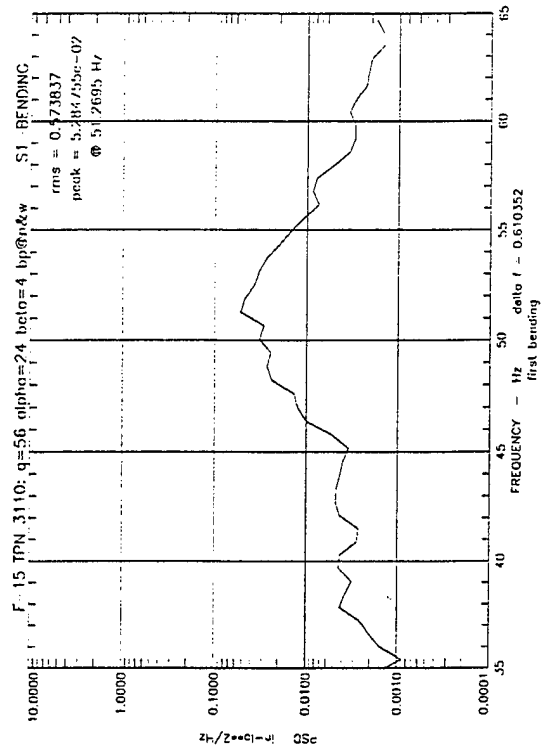
F-15 Tail Buffet Test



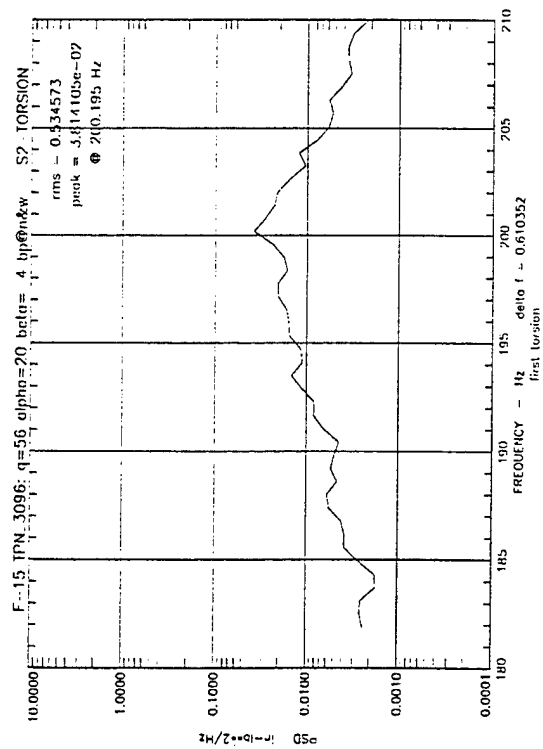
F-15 Tail Buffet Test



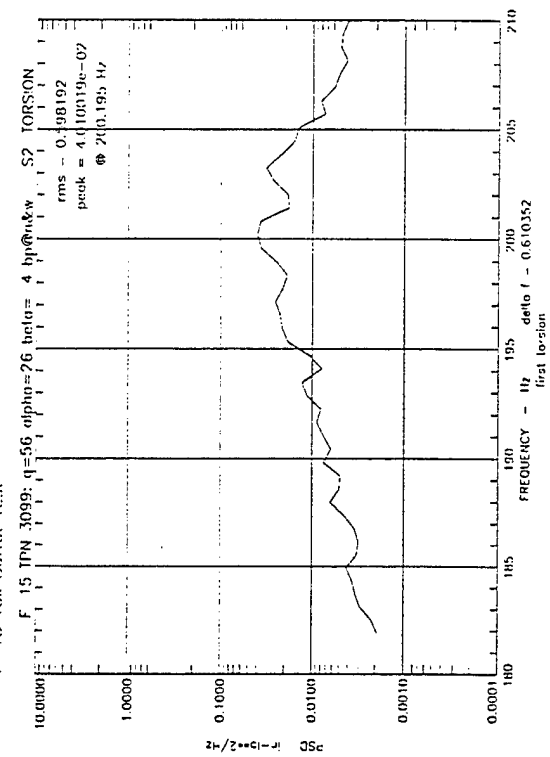
F-15 Tail Buffet Test



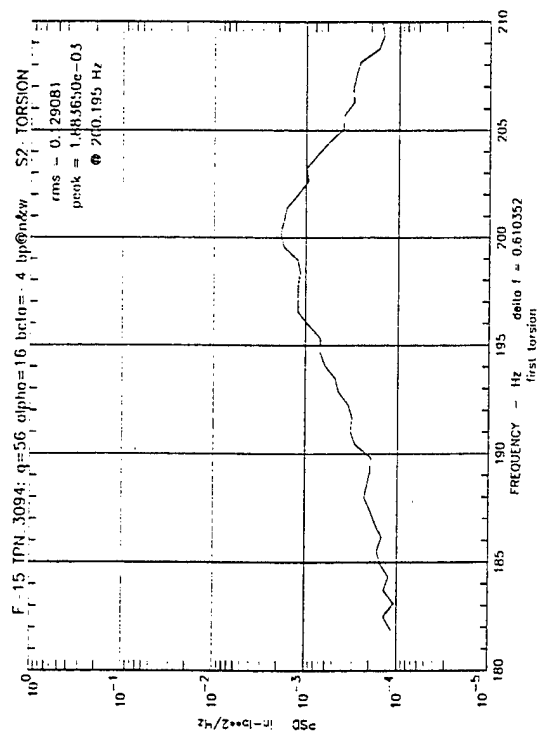
F-15 Tail Buffet Test



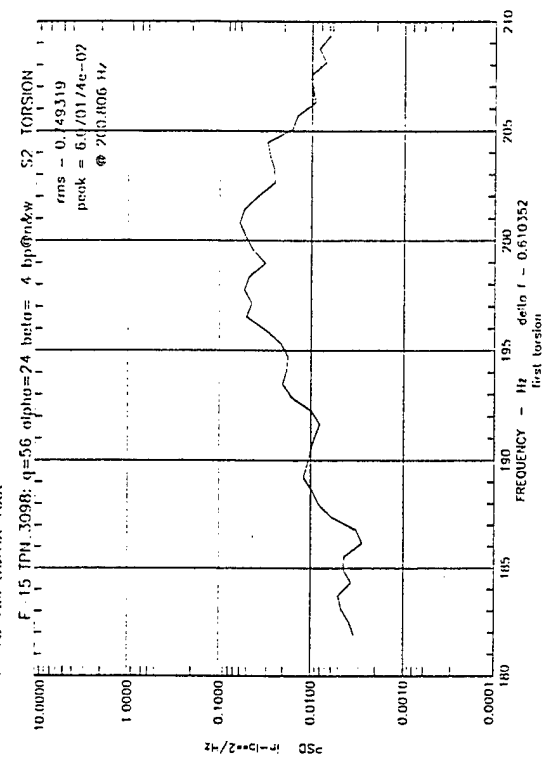
F-15 Tail Buffet Test



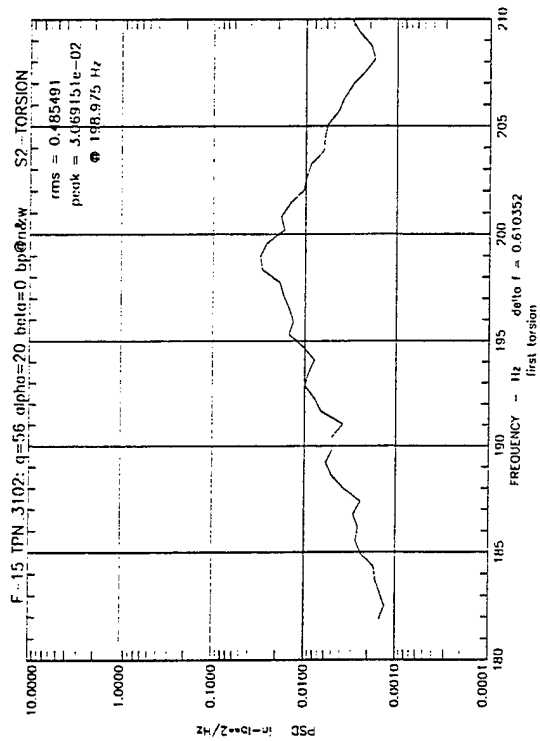
F-15 Tail Buffet Test



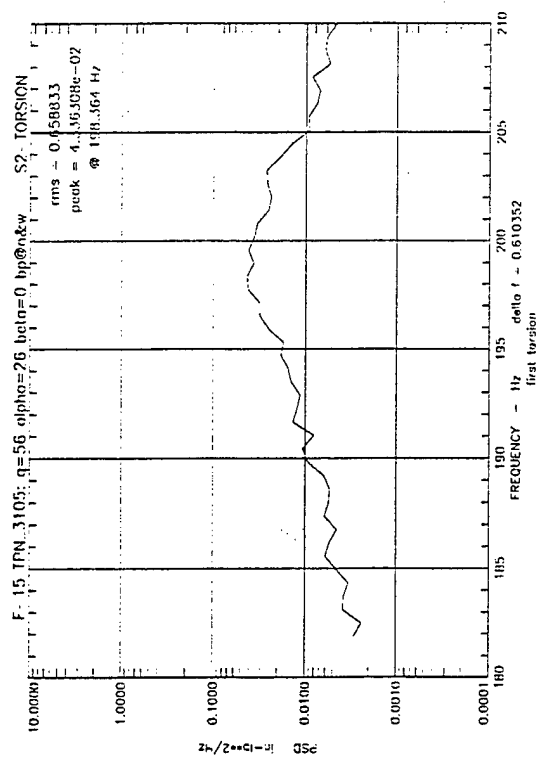
F-15 Tail Buffet Test



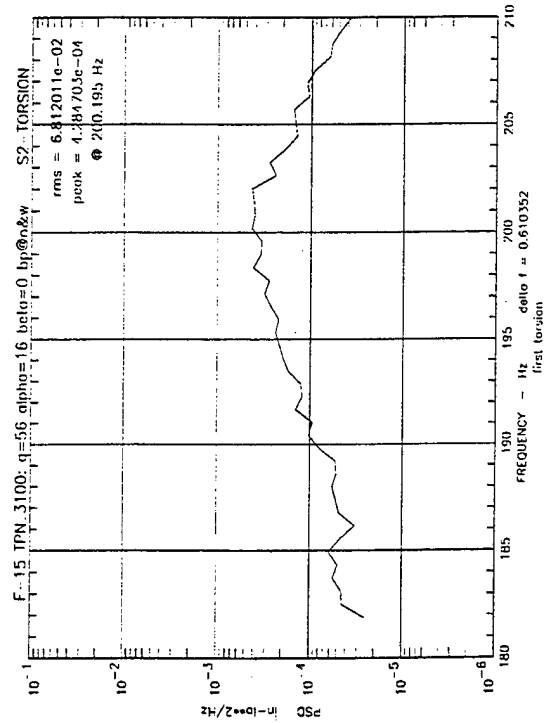
F-15 Tail Buffet Test



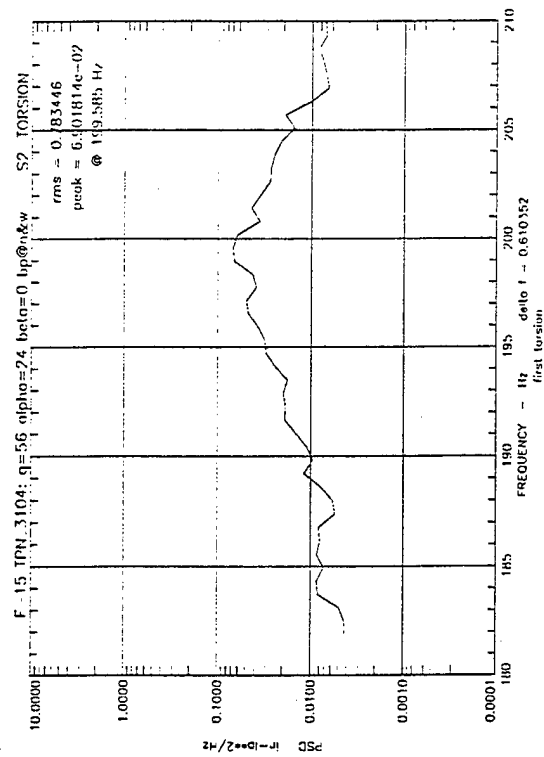
F-15 Tail Buffet Test



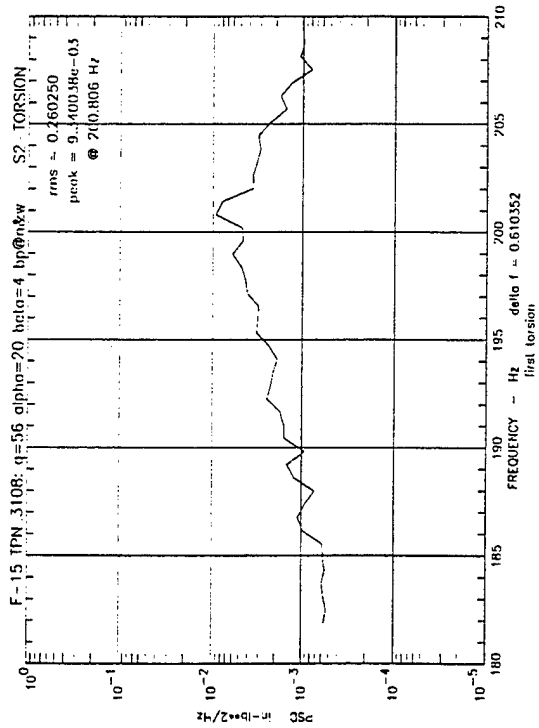
F-15 Tail Buffet Test



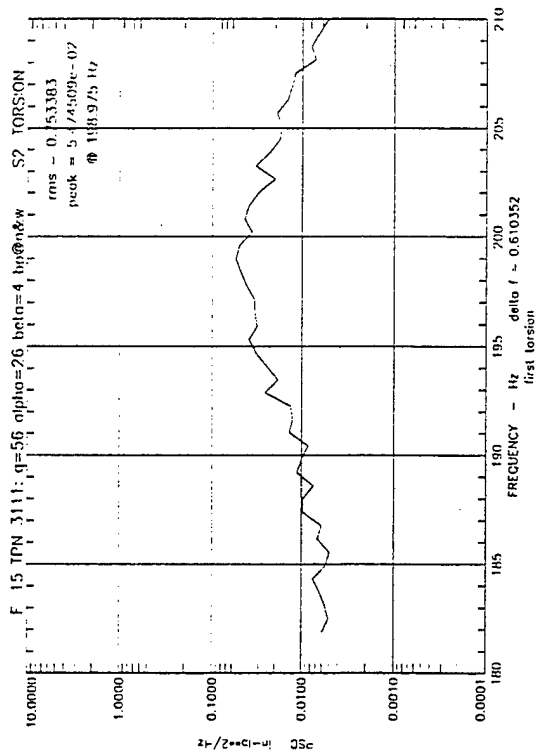
F-15 Tail Buffet Test



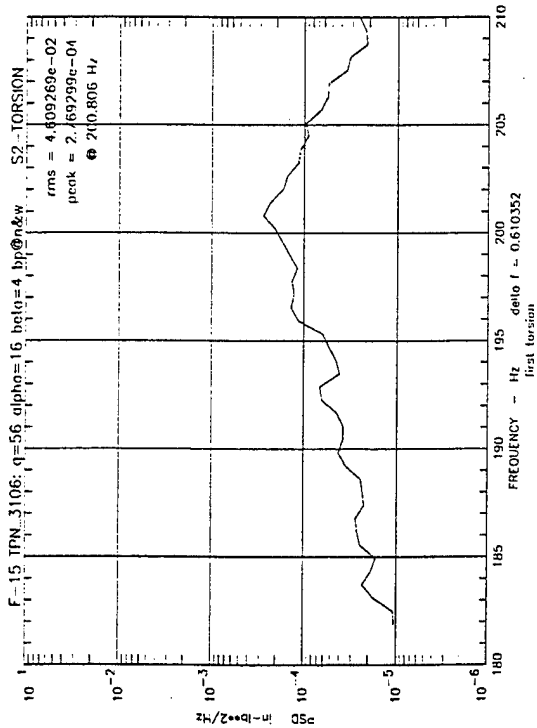
F-15 Tail Buffet Test



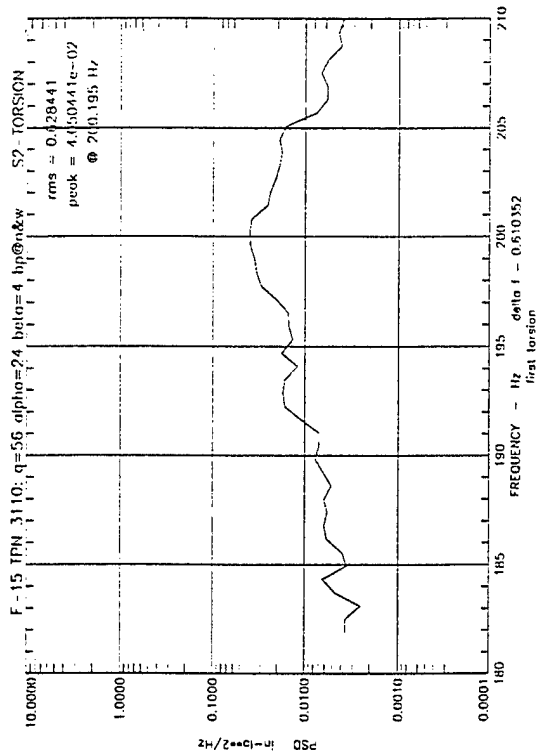
F-15 Tail Buffet Test



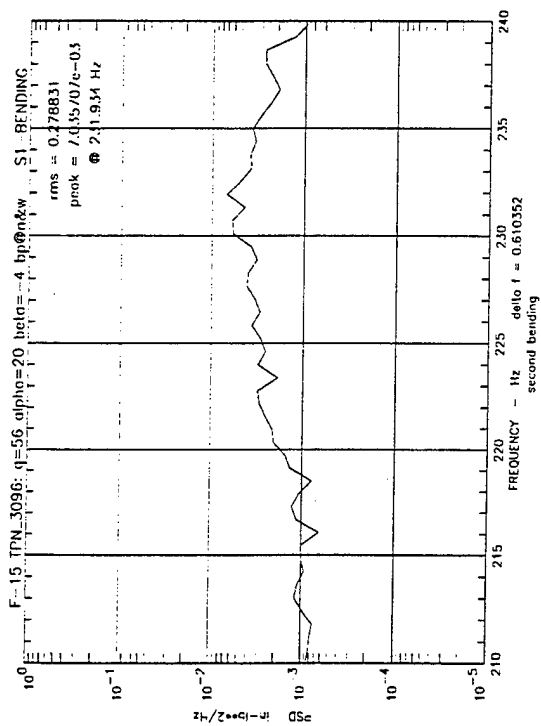
F-15 Tail Buffet Test



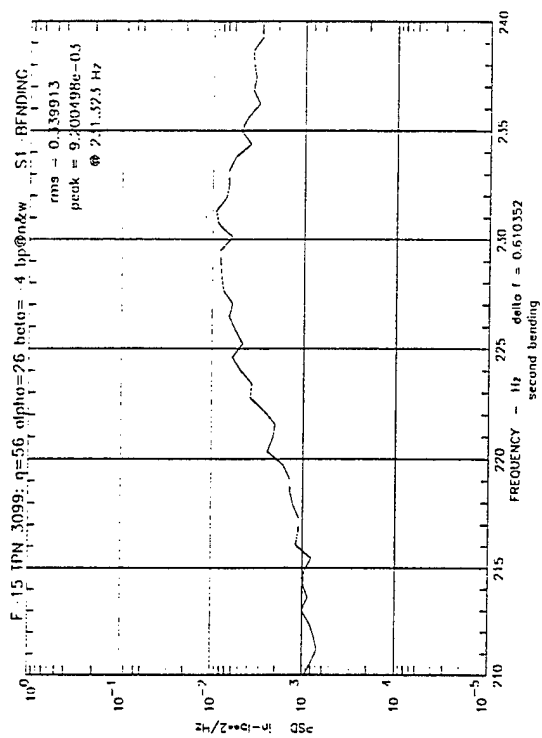
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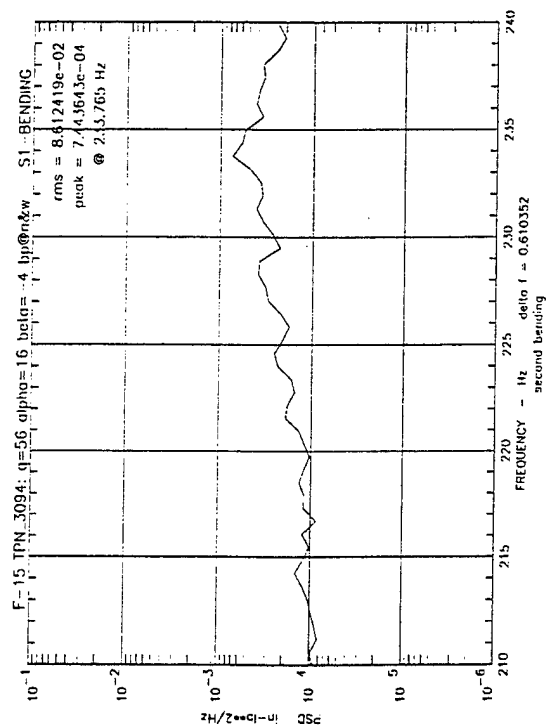
F-15 Tail Buffet Test



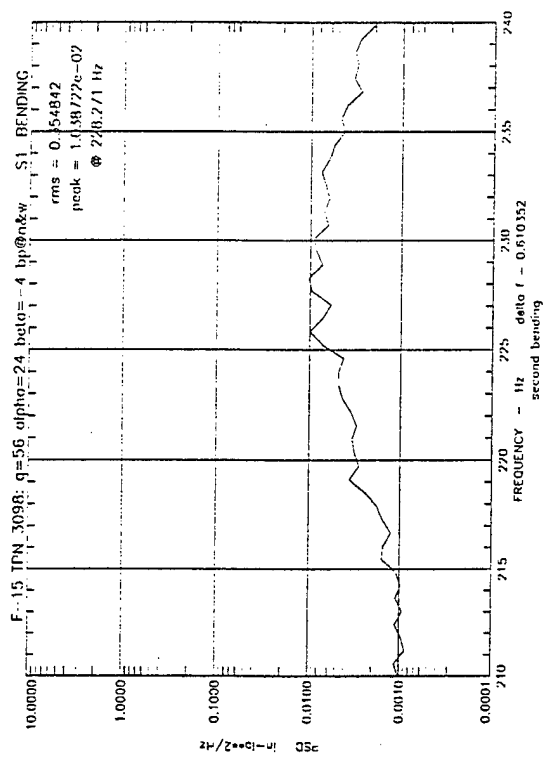
F-15 Tail Buffet Test

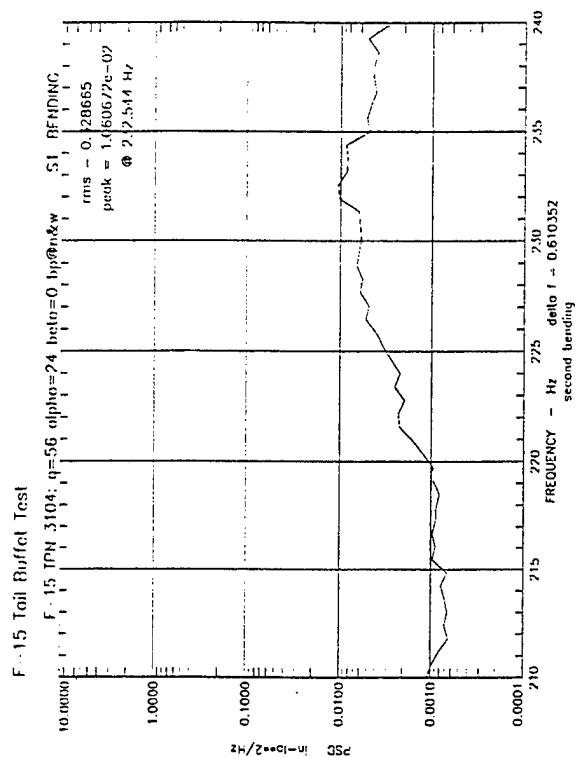
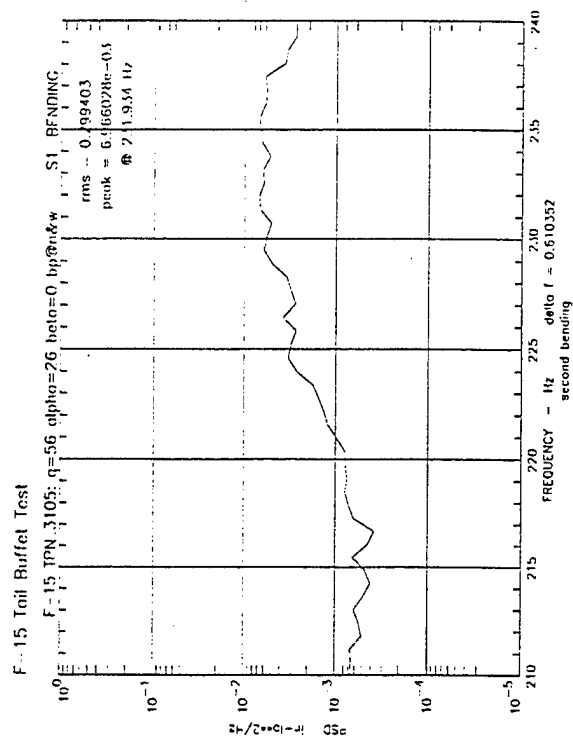
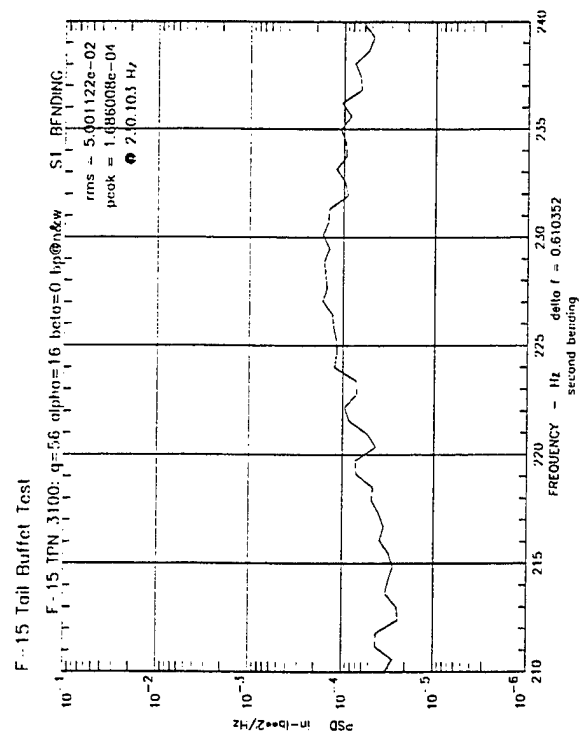
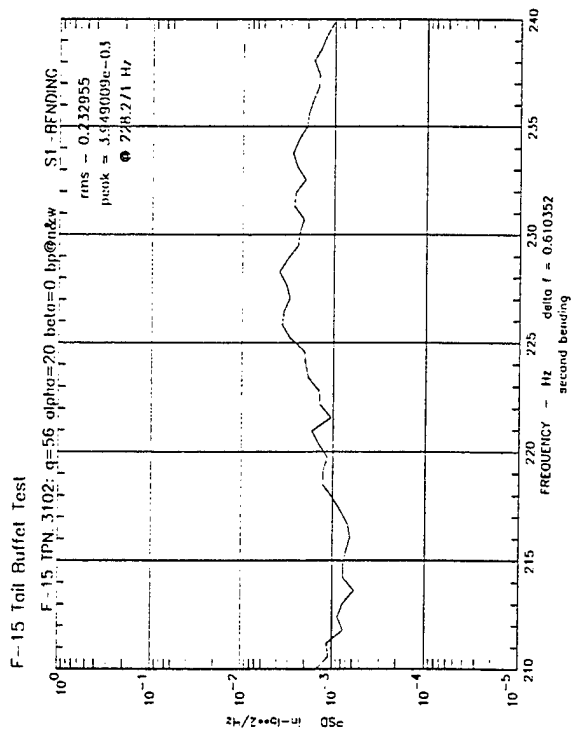


F-15 Tail Buffet Test

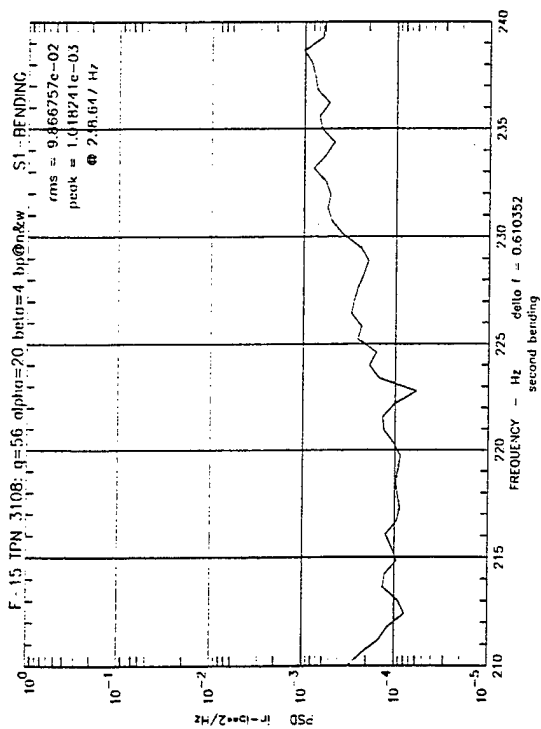


F-15 Tail Buffet Test

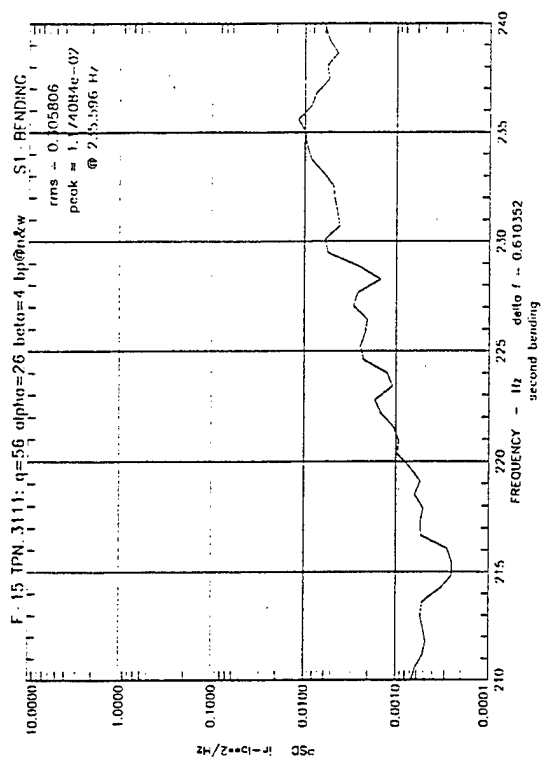




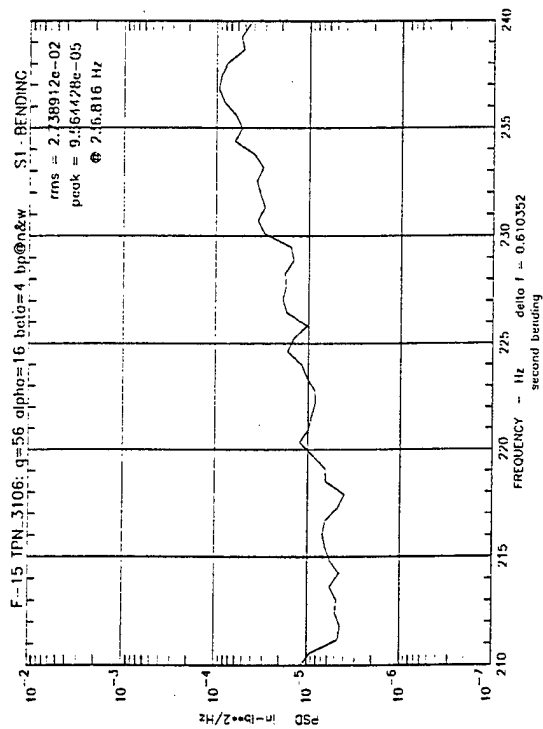
F-15 Tail Buffet Test



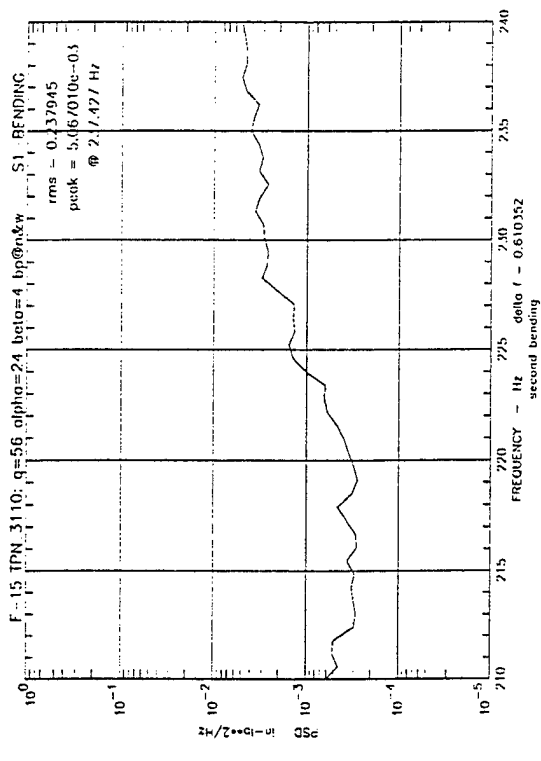
F-15 Tail Buffet Test



F-15 Tail Buffet Test



F-15 Tail Buffet Test



**FLEXIBLE TAIL RESPONSE
DIMENSIONAL BENDING AND TORSION**

Q= 56 PSF

2.1.2 RMS SUMMARY TABS

$Q = 56 \text{ PSI}$
NO BLOWING

F-15 Vertical Tail Buffet Test: Overall RMS Strain values

Bending: beta=0

<u>alpha</u>	<u>rms</u>
0	0.0604
2	0.0607
4	0.0600
6	0.0632
8	0.0609
10	0.0559
12	0.0616
14	0.1025
16	0.1845
18	0.3603
20	0.5754
22	0.7378
24	0.8630
28	1.2401
32	1.7935

beta=-4

<u>alpha</u>	<u>rms</u>
0	0.0442
2	0.0546
4	0.0504
6	0.0520
8	0.0537
10	0.0535
12	0.0730
14	0.1207
16	0.2240
18	0.4646
20	0.7119
22	0.8953
24	1.0324
28	1.3223
32	1.7070

alpha=22

<u>beta</u>	<u>rms</u>
-4	0.8953
-2	0.7946
0	0.7378
2	0.6679
4	0.5477

alpha=32

<u>beta</u>	<u>rms</u>
-4	1.7070
-2	1.7478
0	1.7935
2	1.6527
4	1.6212

Torsion: beta=0

<u>alpha</u>	<u>rms</u>
0	0.0171
2	0.0194
4	0.0215
6	0.0230
8	0.0207
10	0.0205
12	0.0269
14	0.0392
16	0.0751
18	0.2369
20	0.4775
22	0.7250
24	0.9184
28	0.5979
32	0.3787

beta=-4

<u>alpha</u>	<u>rms</u>
0	0.0215
2	0.0253
4	0.0193
6	0.0194
8	0.0201
10	0.0229
12	0.0429
14	0.0499
16	0.1195
18	0.3416
20	0.7053
22	0.8538
24	0.7718
28	0.3560
32	0.3144

alpha=22

<u>beta</u>	<u>rms</u>
-4	0.8538
-2	0.8241
0	0.7250
2	0.6159
4	0.4690

alpha=32

<u>beta</u>	<u>rms</u>
-4	0.3143
-2	0.3324
0	0.3787
2	0.4998
4	0.5631

0-1000 Hz data

1ST Data PKg

F-15 Vertical Tail Buffet Test: Overall RMS & Peak Strain values (in-lbs)

1st Bending: 35-65 Hz

S1-BENDING:

<u>Beta</u>	<u>Alpha</u>	<u>rms</u>	<u>peak</u>	<u>freq</u>
-4	20	.4719	3.268E-02	49.4
-4	22	.6473	4.857E-02	50.0
-4	24	.8462	1.104E-01	48.2
-4	28	1.1270	2.024E-01	48.2
-4	32	1.5490	3.856E-01	48.8
0	20	.4131	2.155E-02	50.0
0	22	.5085	3.832E-02	50.0
0	24	.6262	4.925E-02	48.8
0	28	1.0190	1.584E-01	48.2
0	32	1.6110	5.005E-01	47.6
4	20	.2885	8.435E-03	50.7
4	22	.4207	2.526E-02	50.7
4	24	.6123	6.338E-02	50.7
4	28	.9290	1.363E-01	50.0
4	32	1.3960	3.659E-01	48.8

S2-TORSION:

<u>Beta</u>	<u>Alpha</u>	<u>rms</u>	<u>peak</u>	<u>freq</u>
-4	20	.0380	9.866E-05	51.3
-4	22	.0420	8.967E-05	50.0
-4	24	.0404	8.481E-05	50.7
-4	28	.0449	1.069E-04	47.6
-4	32	.0535	1.980E-04	48.8
0	20	.0327	5.622E-05	50.7
0	22	.0386	8.764E-05	50.7
0	24	.0404	9.997E-05	51.9
0	28	.0462	1.130E-04	49.4
0	32	.0608	2.242E-04	50.7
4	20	.0233	2.000E-05	50.7
4	22	.0295	4.364E-05	51.9
4	24	.0361	8.377E-05	51.3
4	28	.0477	1.203E-04	50.0
4	32	.0715	3.489E-04	49.4

1st Torsion: 180-210 Hz

S1-BENDING:

<u>Beta</u>	<u>Alpha</u>	<u>rms</u>	<u>peak</u>	<u>freq</u>
-4	20	.3252	8.078E-03	192.3
-4	22	.3477	1.006E-02	191.0
-4	24	.2642	5.653E-03	191.0
-4	28	.2000	2.500E-03	195.3
-4	32	.2036	2.551E-03	193.5
0	20	.2273	5.093E-03	190.4
0	22	.3139	9.370E-03	189.8
0	24	.3607	1.314E-02	191.0
0	28	.2121	2.764E-03	191.0
0	32	.2400	3.000E-03	193.5
4	20	.1215	1.235E-03	192.3
4	22	.2093	3.989E-03	191.6
4	24	.3067	8.946E-03	193.5
4	28	.3060	7.667E-03	193.5
4	32	.2200	2.000E-03	195.3

S2-TORSION:

<u>Beta</u>	<u>Alpha</u>	<u>rms</u>	<u>peak</u>	<u>freq</u>
-4	20	.5690	2.721E-02	190.4
-4	22	.6756	3.987E-02	191.0
-4	24	.5643	2.557E-02	191.6
-4	28	.2354	4.128E-03	194.7
-4	32	.2240	4.622E-03	193.5
0	20	.3817	1.632E-02	190.4
0	22	.5708	3.368E-02	189.8
0	24	.7279	5.535E-02	191.0
0	28	.4221	1.556E-02	191.0
0	32	.2695	5.935E-03	193.5
4	20	.2140	4.036E-03	192.3
4	22	.3882	1.423E-02	191.6
4	24	.6070	3.559E-02	193.5
4	28	.7277	4.453E-02	192.9
4	32	.3947	1.381E-02	195.3

2nd Bending: 210-240 Hz

S1-BENDING:

<u>Beta</u>	<u>Alpha</u>	<u>rms</u>	<u>peak</u>	<u>freq</u>
-4	20	.3241	6.926E-03	230.1
-4	22	.3698	9.630E-03	226.4
-4	24	.3158	7.514E-03	227.1
-4	28	.4941	1.790E-03	227.7
-4	32	.3532	9.624E-03	227.1
0	20	.2478	4.503E-03	228.9
0	22	.3145	6.206E-03	228.9
0	24	.3090	5.511E-03	228.9
0	28	.4908	1.687E-02	228.9
0	32	.4465	1.303E-02	231.3
4	20	.1100	8.259E-04	229.5
4	22	.1812	2.647E-03	232.5
4	24	.2640	5.177E-03	231.9
4	28	.3367	9.148E-03	233.2
4	32	.5290	1.955E-02	228.3

S2-TORSION:

<u>Beta</u>	<u>Alpha</u>	<u>rms</u>	<u>peak</u>	<u>freq</u>
-4	20			
-4	22			
-4	24			
-4	28	.0636	2.218E-04	227.7
-4	32	.0455	1.199E-04	229.5
0	20			
0	22			
0	24			
0	28			
0	32			
4	20			
4	22			
4	24			
4	28			
4	32			

F-15 Vertical Tail Buffet Test: RMS (in-lbs) & Peak PSD (in-lbs2/Hz)****1st Bending: 35-65 Hz****S1-BENDING: No Blowing Pressure**

<u>Beta</u>	<u>Alpha</u>	<u>rms</u>	<u>peak</u>	<u>freq</u>
-4	20	.4719	3.268E-02	49.4
-4	24	.8462	1.104E-01	48.2
-4	28	1.1270	2.024E-01	48.2
-4	32	1.5490	3.856E-01	48.8
0	20	.4131	2.155E-02	50.0
0	24	.6262	4.925E-02	48.8
0	28	1.0190	1.584E-01	48.2
0	32	1.6110	5.005E-01	47.6
4	20	.2885	8.435E-03	50.7
4	24	.6123	6.338E-02	50.7
4	28	.9290	1.363E-01	50.0
4	32	1.3960	3.659E-01	48.8

Blowing pressure: 45

<u>rms</u>	<u>peak</u>	<u>freq</u>
.4986	4.054E-02	50.0
.9510	1.452E-01	48.2
1.4290	4.141E-01	48.8
1.5620	4.819E-01	51.3
.4412	2.900E-02	49.4
.6672	6.118E-02	51.3
.9331	1.411E-01	50.7
1.5640	4.996E-01	51.3
.2737	1.073E-02	52.5
.5828	5.478E-02	52.5
1.0090	1.738E-01	50.0
1.5400	3.871E-01	50.0

Blowing pressure: 65

<u>rms</u>	<u>peak</u>	<u>freq</u>
.5398	3.973E-02	51.3
.8456	1.098E-01	48.8
1.1660	2.355E-01	46.4
.4624	2.974E-02	50.7
.6778	5.635E-02	50.0
.9817	1.540E-01	47.6
.3216	1.506E-02	51.9
.5852	5.325E-02	51.9
.8727	1.061E-01	47.6

1st Torsion: 180-210 Hz**S2-TORSION: No Blowing Pressure**

<u>Beta</u>	<u>Alpha</u>	<u>rms</u>	<u>peak</u>	<u>freq</u>
-4	20	.5690	2.721E-02	190.4
-4	24	.5643	2.557E-02	191.6
-4	28	.2354	4.128E-03	194.7
-4	32	.2240	4.622E-03	193.5
0	20	.3817	1.632E-02	190.4
0	24	.7279	5.535E-02	191.0
0	28	.4221	1.556E-02	191.0
0	32	.2695	5.935E-03	193.5
4	20	.2140	4.036E-03	192.3
4	24	.6070	3.559E-02	193.5
4	28	.7277	4.453E-02	192.9
4	32	.3947	1.381E-02	195.3

Blowing pressure: 45

<u>rms</u>	<u>peak</u>	<u>freq</u>
.4731	2.536E-02	202.0
.6783	5.404E-02	202.6
.3523	1.416E-02	204.5
.2372	5.284E-03	204.5
.3662	1.566E-02	203.2
.6712	5.378E-02	201.4
.5519	3.562E-02	203.9
.3151	1.124E-02	205.7
.1989	4.321E-03	203.9
.4963	2.989E-02	203.2
.8196	8.183E-02	203.2
.4154	2.289E-02	204.5

Blowing pressure: 65

<u>rms</u>	<u>peak</u>	<u>freq</u>
.5591	2.847E-02	200.2
.6991	4.891E-02	200.2
.3057	7.418E-03	189.8
.4658	2.160E-02	200.2
.8163	7.479E-02	199.0
.4414	1.860E-02	189.8
.2567	6.459E-03	198.4
.5939	3.316E-02	199.6
.7103	4.342E-02	190.4

2nd Bending: 210-240 Hz**S1-BENDING: No Blowing Pressure**

<u>Beta</u>	<u>Alpha</u>	<u>rms</u>	<u>peak</u>	<u>freq</u>
-4	20	.3241	6.926E-03	230.1
-4	24	.3158	7.514E-03	227.1
-4	28	.4941	1.790E-03	227.7
-4	32	.3532	9.624E-03	227.1
0	20	.2478	4.503E-03	228.9
0	24	.3090	5.511E-03	228.9
0	28	.4908	1.687E-02	228.9
0	32	.4465	1.303E-02	231.3
4	20	.1100	8.259E-04	229.5
4	24	.2640	5.177E-03	231.9
4	28	.3367	9.148E-03	233.2
4	32	.5290	1.955E-02	228.3

Blowing pressure: 45

<u>rms</u>	<u>peak</u>	<u>freq</u>
.2588	5.591E-03	233.2
.3568	1.062E-02	233.8
.4970	2.152E-02	235.6
.3313	1.299E-02	237.4
.1813	2.526E-03	231.9
.3143	8.208E-03	232.5
.4239	1.939E-02	235.6
.3797	1.529E-02	239.3
no peak in range		
no peak in range		
.3236	1.183E-02	236.2
.4909	2.343E-02	236.8

Blowing pressure: 65

<u>rms</u>	<u>peak</u>	<u>freq</u>
.2924	5.703E-03	233.8
.3576	1.117E-02	228.3
.4578	1.407E-02	222.8
.2218	3.397E-03	230.7
.3331	9.752E-03	232.5
.4347	1.179E-02	219.7
.0875	8.117E-04	238.6
.2121	4.425E-03	236.8
.3222	7.300E-03	220.3

F-15 Vertical Tail Buffet Test: RMS (in-lbs) & Peak PSD (in-lbs**2/Hz)

1st Bending: 35-65 Hz

S1-BENDING: No Blowing Pressure

Beta	Alpha	rms	peak	freq
-4	20	.4719	3.268E-02	49.4
-4	22	.6473	4.857E-02	50.0
-4	24	.8462	1.104E-01	48.2
-4	28	1.1270	2.024E-01	48.2
-4	32	1.5490	3.856E-01	48.8
0	20	.4131	2.155E-02	50.0
0	22	.5085	3.832E-02	50.0
0	24	.6262	4.925E-02	48.8
0	28	1.0190	1.584E-01	48.2
0	32	1.6110	5.005E-01	47.6
4	20	.2885	8.435E-03	50.7
4	22	.4207	2.526E-02	50.7
4	24	.6123	6.338E-02	50.7
4	28	.9290	1.363E-01	50.0
4	32	1.3960	3.659E-01	48.8

Wing Blowing Pressure

B.P.	Beta	Alpha	rms	peak	freq
	-4	32	1.5620	4.819E-01	51.3
45	-4	32	1.5620	4.819E-01	51.3
45	0	24	.6672	6.118E-02	51.3
65	0	24	.6224	4.609E-02	47.0
45	0	32	1.5644	4.996E-01	51.3
45	4	32	1.5402	3.871E-01	50.0

1st Torsion: 180-210 Hz

S2-TORSION: No Blowing Pressure

Beta	Alpha	rms	peak	freq
-4	20	.5690	2.721E-02	190.4
-4	22	.6756	3.987E-02	191.0
-4	24	.5643	2.557E-02	191.6
-4	28	.2354	4.128E-03	194.7
-4	32	.2240	4.622E-03	193.5
0	20	.3817	1.632E-02	190.4
0	22	.5708	3.368E-02	189.8
0	24	.7279	5.535E-02	191.0
0	28	.4221	1.556E-02	191.0
0	32	.2695	5.935E-03	193.5
4	20	.2140	4.036E-03	192.3
4	22	.3882	1.423E-02	191.6
4	24	.6070	3.559E-02	193.5
4	28	.7277	4.453E-02	192.9
4	32	.3947	1.381E-02	195.3

Wing Blowing Pressure

B.P.	Beta	Alpha	rms	peak	freq
45	-4	32	.2372	5.284E-03	204.5
45	0	24	.6712	5.378E-02	201.4
65	0	24	.6099	3.122E-02	187.4
45	0	32	.3151	1.124E-02	205.7
45	4	32	.4154	2.289E-02	204.5

this changes α in next set of data to .8163

2nd Bending: 210-240 Hz

S1-BENDING: No Blowing Pressure

Beta	Alpha	rms	peak	freq
-4	20	.3241	6.926E-03	230.1
-4	22	.3698	9.630E-03	226.4
-4	24	.3158	7.514E-03	227.1
-4	28	.4941	1.790E-03	227.7
-4	32	.3532	9.624E-03	227.1
0	20	.2478	4.503E-03	228.9
0	22	.3145	6.206E-03	228.9
0	24	.3090	5.511E-03	228.9
0	28	.4908	1.687E-02	228.9
0	32	.4465	1.303E-02	231.3
4	20	.1100	8.259E-04	229.5
4	22	.1812	2.647E-03	232.5
4	24	.2640	5.177E-03	231.9
4	28	.3367	9.148E-03	233.2
4	32	.5290	1.955E-02	228.3

Wing Blowing Pressure

B.P.	Beta	Alpha	rms	peak	freq
45	-4	32	.3313	1.299E-02	237.4
45	0	24	.3143	8.208E-03	232.5
65	0	24	.3136	7.744E-03	216.7
45	0	32	.3797	1.529E-02	239.3
45	4	32	.4909	2.343E-02	236.8

this changed to .3331 in next set of data

F-15 Vertical Tail Buffet Test: RMS (in-lbs) & Peak PSD (in-lbs**2/Hz)

1st Bending: 35-65 Hz

S1-BENDING: No Blowing Pressure

Beta	Alpha	rms	peak	freq
-4	20	.4719	3.268E-02	49.4
-4	24	.8462	1.104E-01	48.2
-4	28	1.1270	2.024E-01	48.2
-4	32	1.5490	3.856E-01	48.8
0	20	.4131	2.155E-02	50.0
0	24	.6262	4.925E-02	48.8
0	28	<u>1.0189</u>	1.584E-01	48.2
0	32	<u>1.6110</u>	5.005E-01	47.6
4	20	.2885	8.435E-03	50.7
4	24	.6123	6.338E-02	50.7
4	28	.9290	1.363E-01	50.0
4	32	1.3960	3.659E-01	48.8

Blowing pressure: 45

rms	peak	freq
.4986	4.054E-02	50.0
.9510	1.452E-01	48.2
1.4290	4.141E-01	48.8
1.5620	4.819E-01	51.3
.4412	2.900E-02	49.4
.6672	6.118E-02	51.3
.9331	1.411E-01	50.7
<u>1.5640</u>	4.996E-01	51.3
.2737	1.073E-02	52.5
.5828	5.478E-02	52.5
1.0090	1.738E-01	50.0
1.5400	3.871E-01	50.0

Blowing pressure: 65

rms	peak	freq
.5398	3.973E-02	51.3
.8456	1.098E-01	48.8
<u>1.1660</u>	2.355E-01	46.4
.4624	2.974E-02	50.7
.6778	5.635E-02	50.0
.9817	1.540E-01	47.6
.3216	1.506E-02	51.9
.5852	5.325E-02	51.9
.8727	1.061E-01	47.6

1st Torsion: 180-210 Hz

S2-TORSION: No Blowing Pressure

Beta	Alpha	rms	peak	freq
-4	20	.5690	2.721E-02	190.4
-4	24	.5643	2.557E-02	191.6
-4	28	.2354	4.128E-03	194.7
-4	32	.2240	4.622E-03	193.5
0	20	.3817	1.632E-02	190.4
0	24	<u>.7279</u>	5.535E-02	191.0
0	28	.4221	1.556E-02	191.0
0	32	.2695	5.935E-03	193.5
4	20	.2140	4.036E-03	192.3
4	24	.6070	3.559E-02	193.5
4	28	.7277	4.453E-02	192.9
4	32	.3947	1.381E-02	195.3

Blowing pressure: 45

rms	peak	freq
.4731	2.536E-02	202.0
.6783	5.404E-02	202.6
.3523	1.416E-02	204.5
.2372	5.284E-03	204.5
.3662	1.566E-02	203.2
.6712	5.378E-02	201.4
.5519	3.562E-02	203.9
.3151	1.124E-02	205.7
.1989	4.321E-03	203.9
.4983	2.989E-02	203.2
<u>.8196</u>	8.183E-02	203.2
.4154	2.289E-02	204.5

Blowing pressure: 65

rms	peak	freq
.5591	2.847E-02	200.2
.6991	4.891E-02	200.2
.3057	7.418E-03	189.8
.4658	2.160E-02	200.2
<u>.8163</u>	7.479E-02	199.0
.4414	1.860E-02	189.8
.2567	6.459E-03	198.4
.5939	3.316E-02	199.6
.7103	4.342E-02	190.4

2nd Bending: 210-240 Hz

S1-BENDING: No Blowing Pressure

Beta	Alpha	rms	peak	freq
-4	20	.3241	6.926E-03	230.1
-4	24	.3158	7.514E-03	227.1
-4	28	.4941	1.790E-03	227.7
-4	32	.3532	9.624E-03	227.1
0	20	.2478	4.503E-03	228.9
0	24	.3090	5.511E-03	228.9
0	28	.4908	1.687E-02	228.9
0	32	.4465	1.303E-02	231.3
4	20	.1100	8.259E-04	229.5
4	24	.2640	5.177E-03	231.9
4	28	<u>.3367</u>	9.148E-03	233.2
4	32	<u>.5290</u>	1.955E-02	228.3

Blowing pressure: 45

rms	peak	freq
.2588	5.591E-03	233.2
.3568	1.062E-02	233.8
<u>.4970</u>	2.152E-02	235.6
.3313	1.299E-02	237.4
.1813	2.526E-03	231.9
.3143	8.208E-03	232.5
.4239	1.939E-02	235.6
.3797	1.529E-02	239.3
no peak in range		
no peak in range		
.3236	1.183E-02	236.2
.4909	2.343E-02	236.8

Blowing pressure: 65

rms	peak	freq
.2924	5.703E-03	233.8
.3576	1.117E-02	228.3
<u>.4578</u>	1.407E-02	222.8
.2218	3.397E-03	230.7
.3331	9.752E-03	232.5
.4347	1.179E-02	219.7
.0875	8.117E-04	238.6
.2121	4.425E-03	236.8
.3222	7.300E-03	220.3

F-15 Vertical Tail Buffet Test: Overall RMS (in-lbs) & Peak of PSD (in-lbs**2/Hz), Q=56 psi

2nd Bending: 210-240 Hz

S1-BENDING: No Blowing Pressure

Blowing pressure: 45

Blowing pressure: 65

<u>Beta</u>	<u>Alpha</u>	<u>rms</u>	<u>peak</u>	<u>freq</u>	<u>rms</u>	<u>peak</u>	<u>freq</u>	<u>rms</u>	<u>peak</u>	<u>freq</u>
-4	8	.0175	2.024E-05	232.5	no peak in range			no data		
-4	12	.0236	4.368E-05	231.9	no peak in range			no data		
-4	16	.0800	3.758E-04	228.3	no peak in range			.0894	6.685E-04	234.4
-4	20	.3241	6.926E-03	230.1	.2588	5.591E-03	233.2	.2924	5.703E-03	233.8
-4	24	.3158	7.514E-03	227.1	.3568	1.062E-02	233.8	.3576	1.117E-02	228.3
-4	28	.4941	1.790E-03	227.7	.4970	2.152E-02	235.6	.4578	1.407E-02	222.8
-4	32	.3532	9.624E-03	227.1	.3313	1.299E-02	237.4	no data		
0	8	.0145	1.373E-05	230.1	.0128	1.635E-05	235.0	no data		
0	12	.0155	1.542E-05	235.6	.0165	2.454E-05	233.8	no data		
0	16	.0407	1.148E-04	233.2	.0366	1.040E-04	233.2	.0504	1.850E-04	230.7
0	20	.2478	4.503E-03	228.9	.1813	2.526E-03	231.9	.2218	3.397E-03	230.7
0	24	.3090	5.511E-03	228.9	.3143	8.208E-03	232.5	.3331	9.752E-03	232.5
0	28	.4908	1.687E-02	228.9	.4239	1.939E-02	235.6	.4347	1.179E-02	219.7
0	32	.4465	1.303E-02	231.3	.3797	1.529E-02	239.3	no data		
4	8	.0111	8.438E-06	230.7	no peak in range			no data		
4	12	.0125	9.895E-06	230.1	no peak in range			no data		
4	16	.0237	4.391E-05	232.5	no peak in range			.0244	7.850E-05	238.0
4	20	.1100	8.259E-04	229.5	no peak in range			.0875	8.117E-04	238.6
4	24	.2640	5.177E-03	231.9	no peak in range			.2121	4.425E-03	236.8
4	28	.3367	9.148E-03	233.2	.3236	1.183E-02	236.2	.3222	7.300E-03	220.3
4	32	.5290	1.955E-02	228.3	.4909	2.343E-02	236.8	no data		

F-15 Vertical Tail Buffet Test: Overall RMS (in-lbs) & Peak of PSD (in-lbs**2/Hz), Q=56 psi

1st Bending: 35-65 Hz

S1-BENDING: No Blowing Pressure

<u>Beta</u>	<u>Alpha</u>	<u>rms</u>	<u>peak</u>	<u>freq</u>
-4	8	.0449	3.842E-04	50.1
-4	12	.0573	4.540E-04	50.7
-4	16	.1788	4.186E-03	50.7
-4	20	.4719	3.268E-02	49.4
-4	24	.8462	1.104E-01	48.2
-4	28	1.1270	2.024E-01	48.2
-4	32	1.5490	3.856E-01	48.8
0	8	.0539	4.883E-04	52.5
0	12	.0500	2.673E-04	53.1
0	16	.1552	3.504E-03	50.7
0	20	.4131	2.155E-02	50.0
0	24	.6262	4.925E-02	48.8
0	28	1.0190	1.584E-01	48.2
0	32	1.6110	5.005E-01	47.6
4	8	.0427	2.680E-04	50.7
4	12	.0447	2.546E-04	50.7
4	16	.1152	1.762E-03	51.9
4	20	.2885	8.435E-03	50.7
4	24	.6123	6.338E-02	50.7
4	28	.9290	1.363E-01	50.0
4	32	1.3960	3.659E-01	48.8

Blowing pressure: 45

<u>rms</u>	<u>peak</u>	<u>freq</u>
.0469	3.488E-04	50.7
.0750	9.914E-04	52.5
.1973	7.406E-03	51.9
.4986	4.054E-02	50.0
.9510	1.452E-01	48.2
1.4290	4.141E-01	48.8
1.5620	4.819E-01	51.3
.0562	5.658E-04	50.7
.0689	6.579E-04	49.4
.1583	2.909E-03	48.8
.4412	2.900E-02	49.4
.6672	6.118E-02	51.3
.9331	1.411E-01	50.7
1.5640	4.996E-01	51.3
.0451	3.113E-04	53.7
.0497	2.661E-04	53.7
.1083	1.594E-03	52.5
.2737	1.073E-02	52.5
.5828	5.478E-02	52.5
1.0090	1.738E-01	50.0
1.5400	3.871E-01	50.0

Blowing pressure: 65

<u>rms</u>	<u>peak</u>	<u>freq</u>
no data		
no data		
.2212	7.472E-03	51.3
.5398	3.973E-02	51.3
.8456	1.098E-01	48.8
1.1660	2.355E-01	46.4
no data		
no data		
no data		
.1818	4.153E-03	48.2
.4624	2.974E-02	50.7
.6778	5.635E-02	50.0
.9817	1.540E-01	47.6
no data		
no data		
no data		
.1292	2.420E-03	53.1
.3216	1.506E-02	51.9
.5852	5.325E-02	51.9
.8727	1.061E-01	47.6
no data		

F-15 Vertical Tail Buffet Test: Overall RMS (in-lbs) & Peak of PSD (in-lbs**2/Hz), Q=56 psi

1st Torsion: 180-210 Hz

S2-TORSION: No Blowing Pressure

Blowing pressure: 45

Blowing pressure: 65

<u>Beta</u>	<u>Alpha</u>	<u>rms</u>	<u>peak</u>	<u>freq</u>	<u>rms</u>	<u>peak</u>	<u>freq</u>	<u>rms</u>	<u>peak</u>	<u>freq</u>
-4	8	.0041	1.421E-06	191.7	no peak in range			no data		
-4	12	.0150	1.804E-05	191.7	.0133	1.892E-05	204.5	no data		
-4	16	.0809	5.727E-04	192.3	.1086	1.217E-03	201.4	.1296	1.438E-03	200.8
-4	20	.5690	2.721E-02	190.4	.4731	2.536E-02	202.0	.5591	2.847E-02	200.2
-4	24	.5643	2.557E-02	191.6	.6783	5.404E-02	202.6	.6991	4.891E-02	200.2
-4	28	.2354	4.128E-03	194.7	.3523	1.416E-02	204.5	.3057	7.418E-03	189.8
-4	32	.2240	4.622E-03	193.5	.2372	5.284E-03	204.5	no data		
0	8	.0038	1.177E-06	189.2	no peak in range			no data		
0	12	.0102	9.125E-06	192.9	no peak in range			no data		
0	16	.0495	2.266E-04	191.7	.0520	2.861E-04	203.9	.0688	4.102E-04	198.4
0	20	.3817	1.632E-02	190.4	.3662	1.566E-02	203.2	.4658	2.160E-02	200.2
0	24	.7279	5.535E-02	191.0	.6712	5.378E-02	201.4	.8163	7.479E-02	199.0
0	28	.4221	1.556E-02	191.0	.5519	3.562E-02	203.9	.4414	1.860E-02	189.8
0	32	.2695	5.935E-03	193.5	.3151	1.124E-02	205.7	no data		
4	8	.0038	1.422E-06	188.6	no peak in range			no data		
4	12	.0082	5.333E-06	188.0	no peak in range			no data		
4	16	.0295	7.666E-05	192.9	.0360	1.457E-04	202.0	.0418	1.915E-04	201.4
4	20	.2140	4.036E-03	192.3	.1989	4.321E-03	203.9	.2567	6.459E-03	198.4
4	24	.6070	3.559E-02	193.5	.4963	2.989E-02	203.2	.5939	3.316E-02	199.6
4	28	.7277	4.453E-02	192.9	.8196	8.183E-02	203.2	.7103	4.342E-02	190.4
4	32	.3947	1.381E-02	195.3	.4154	2.289E-02	204.5	no data		

F-15 Vertical Tail Buffet Test: Overall RMS (in-lb), Q=56 psf

87 psi blowing pressure at nose only:

<u>Beta</u>	<u>Alpha</u>	<u>bending</u> <u>5-500 Hz</u>	<u>torsion</u> <u>5-500 Hz</u>	<u>1st bending</u> <u>35-65 Hz</u>	<u>1st torsion</u> <u>180-210 Hz</u>	<u>2nd bending</u> <u>210-240 Hz</u>
4	16	.1466	.0558	.1295	.0368	.0207
4	20	.4076	.2995	.3404	.2560	.1033
4	24	.8144	.7936	.6382	.6507	.2419
4	26	1.0650	1.0710	.8494	.8630	.3065
0	16	.2040	.0813	.1764	.0571	.0433
0	20	.6206	.5776	.4480	.4976	.2506
0	24	.9144	.9681	.7052	.7823	.3044
0	26	1.0520	.8705	.8746	.6498	.3245
-4	16	.2248	.1216	.1860	.0926	.0737
-4	20	.7558	.7675	.5138	.6476	.3385
-4	24	1.1180	.8304	.9437	.6325	.3381
-4	26	1.2520	.5377	1.0210	.3804	.5303

87 psi blowing pressure at nose & 65 psi at gun:

<u>Beta</u>	<u>Alpha</u>	<u>bending</u> <u>5-500 Hz</u>	<u>torsion</u> <u>5-500 Hz</u>	<u>1st bending</u> <u>35-65 Hz</u>	<u>1st torsion</u> <u>180-210 Hz</u>	<u>2nd bending</u> <u>210-240 Hz</u>
4	16	.1620	.0660	.1421	.0435	.0261
4	20	.4129	.3640	.3240	.3144	.1103
4	24	.7452	.7557	.5635	.6248	.2352
4	26	.9608	.9438	.7612	.7647	.2857
0	16	.2238	.1058	.1899	.0818	.0564
0	20	.6484	.6360	.4630	.5545	.2530
0	24	.9388	.9867	.7112	.8103	.3281
0	26	1.0760	.9283	.8865	.7182	.3099
-4	16	.3321	.2256	.2579	.1847	.1249
-4	20	.7467	.7859	.5095	.6684	.3118
-4	24	1.2310	.8603	1.0560	.6454	.3354
-4	26	1.4380	.6622	1.2330	.4953	.5044

87 psi blowing pressure at nose & 65 psi at wing L.E.:

<u>Beta</u>	<u>Alpha</u>	<u>bending</u> <u>5-500 Hz</u>	<u>torsion</u> <u>5-500 Hz</u>	<u>1st bending</u> <u>35-65 Hz</u>	<u>1st torsion</u> <u>180-210 Hz</u>	<u>2nd bending</u> <u>210-240 Hz</u>
4	16	.1606	.0689	.1408	.0461	.0274
4	20	.3800	.3055	.3057	.2603	.0987
4	24	.7536	.7557	.5738	.6284	.2379
4	26	.9425	.9531	.7304	.7534	.3058
0	16	.2214	.0961	.1927	.0681	.0500
0	20	.6194	.5617	.4583	.4855	.2330
0	24	.9024	.9610	.6710	.7834	.3287
0	26	.9809	.8751	.7930	.6588	.2994
-4	16	.2626	.1608	.2139	.1291	.0861
-4	20	.6976	.6335	.5171	.5346	.2788
-4	24	1.0750	.9191	.8656	.7493	.3548
-4	26	1.1970	.7505	1.0370	.5982	.3399

F-15 Vertical Tail Buffet Test: Overall RMS (in-lb), Q=56 psi

65 psi blowing pressure at gun only:

<u>Beta</u>	<u>Alpha</u>	<u>bending</u> <u>5-500 Hz</u>	<u>torsion</u> <u>5-500 Hz</u>	<u>1st bending</u> <u>35-65 Hz</u>	<u>1st torsion</u> <u>180-210 Hz</u>	<u>2nd bending</u> <u>210-240 Hz</u>
4	16	.1578	.0626	.1380	.0405	.0284
4	20	.4142	.3540	.3287	.3061	.1104
4	24	.7573	.7145	.5837	.5812	.2483
4	26	.9501	.9039	.7509	.7335	.2908
0	16	.2186	.1004	.1844	.0782	.0571
0	20	.6347	.6112	.4499	.5289	.2543
0	24	.9342	.9938	.6928	.8224	.3356
0	26	1.1200	.9514	.9275	.7310	.3237
-4	16	.3327	.2263	.2545	.1837	.1266
-4	20	.7730	.7977	.5344	.6742	.3216
-4	24	1.2190	.8549	1.0390	.6449	.3449
-4	26	1.4190	.6446	1.2040	.4894	.5180

65 psi blowing pressure at gun & wing L.E.:

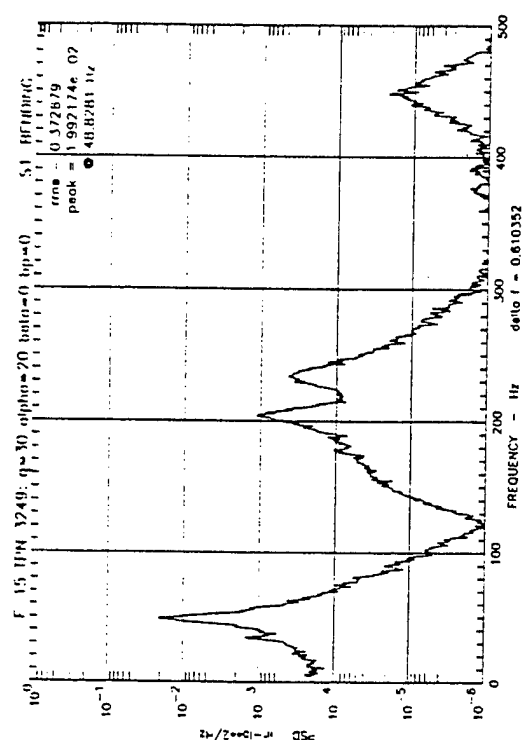
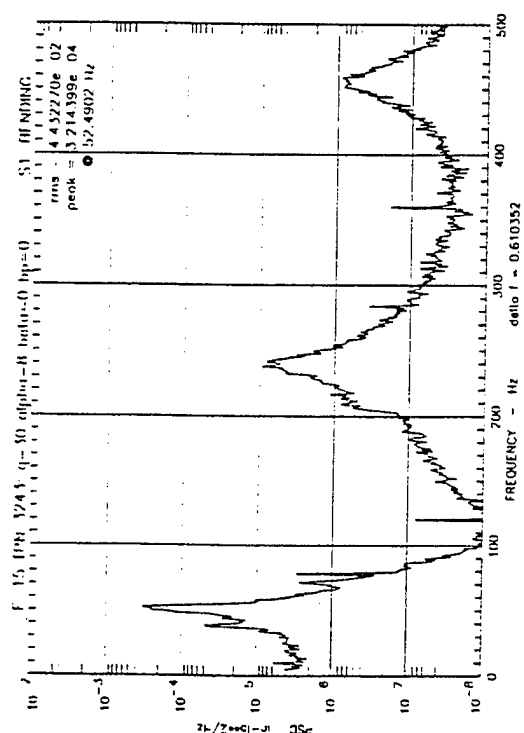
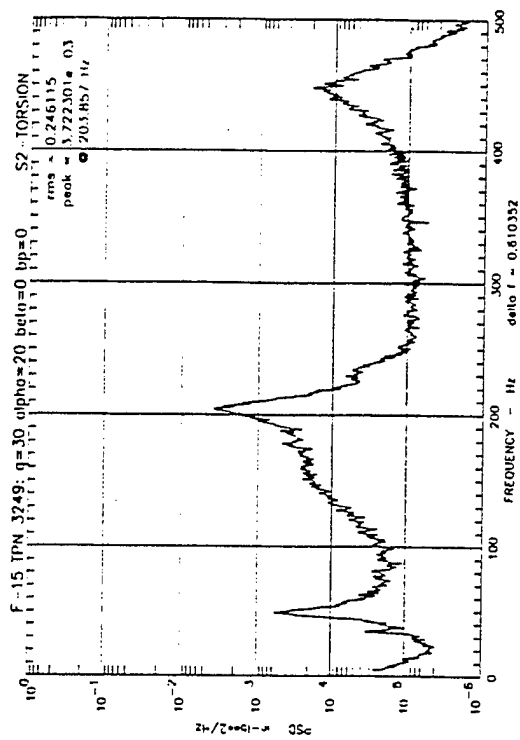
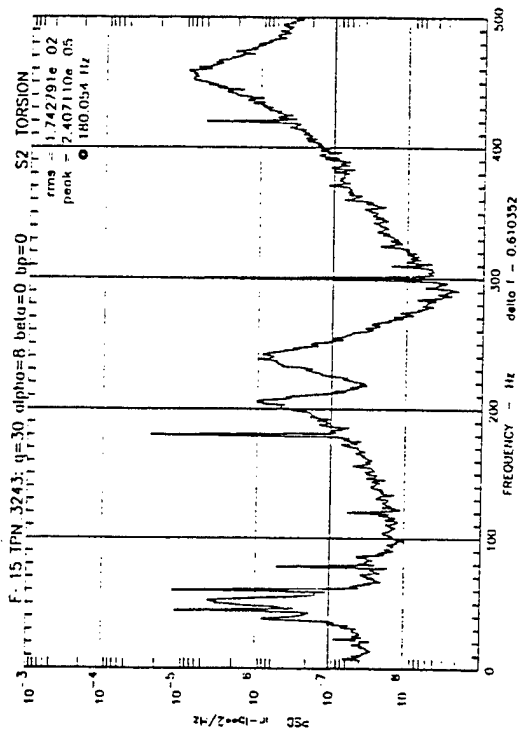
<u>Beta</u>	<u>Alpha</u>	<u>bending</u> <u>5-500 Hz</u>	<u>torsion</u> <u>5-500 Hz</u>	<u>1st bending</u> <u>35-65 Hz</u>	<u>1st torsion</u> <u>180-210 Hz</u>	<u>2nd bending</u> <u>210-240 Hz</u>
4	16	.1664	.0720	.1433	.0476	.0288
4	20	.4009	.3154	.3305	.2671	.0913
4	24	.7510	.6754	.5805	.5552	.2313
4	26	.9368	.8879	.7233	.7235	.3023
0	16	.2335	.1077	.1988	.0841	.0524
0	20	.6012	.5385	.4549	.4674	.2066
0	24	.9263	.9342	.6958	.7726	.3368
0	26	1.0880	.9439	.8914	.7640	.3271
-4	16	.3077	.2015	.2425	.1666	.1059
-4	20	.7350	.7187	.5257	.6093	.2901
-4	24	1.2420	.8988	1.0390	.7263	.3984
-4	26	1.4070	.7924	1.2010	.6494	.4694

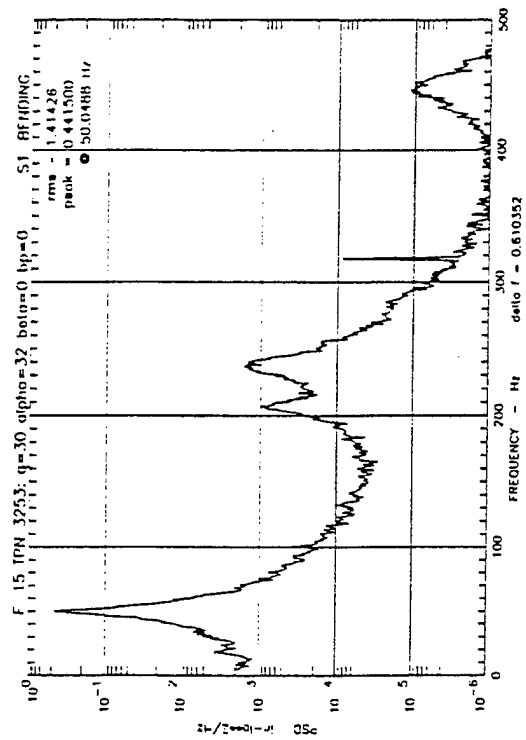
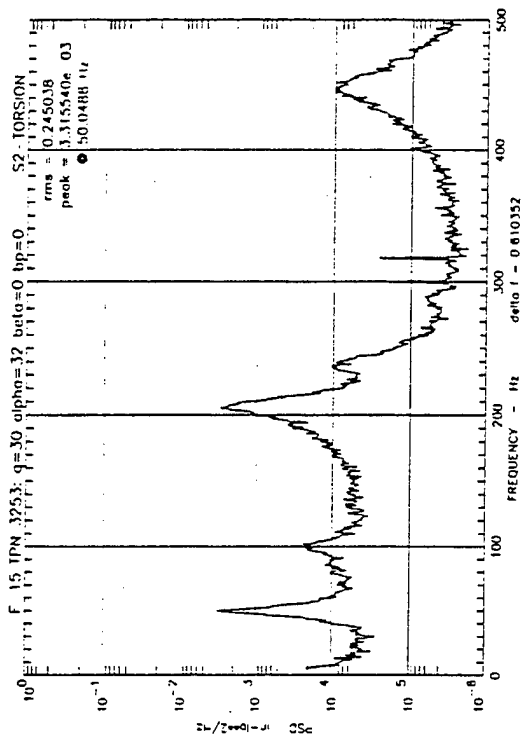
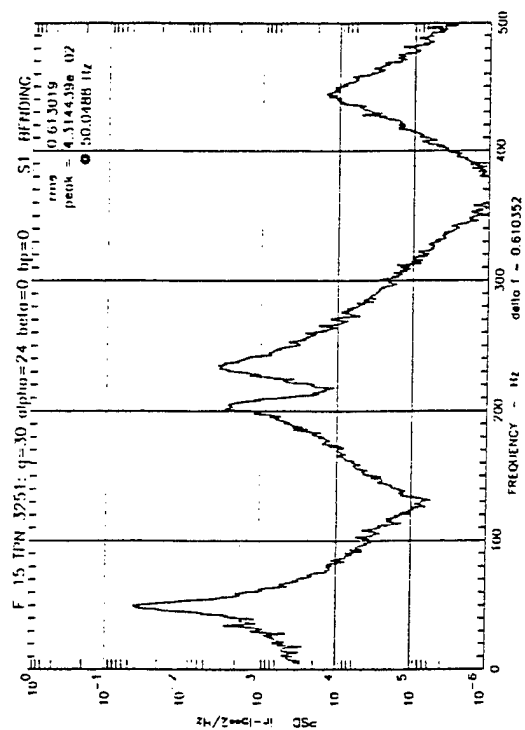
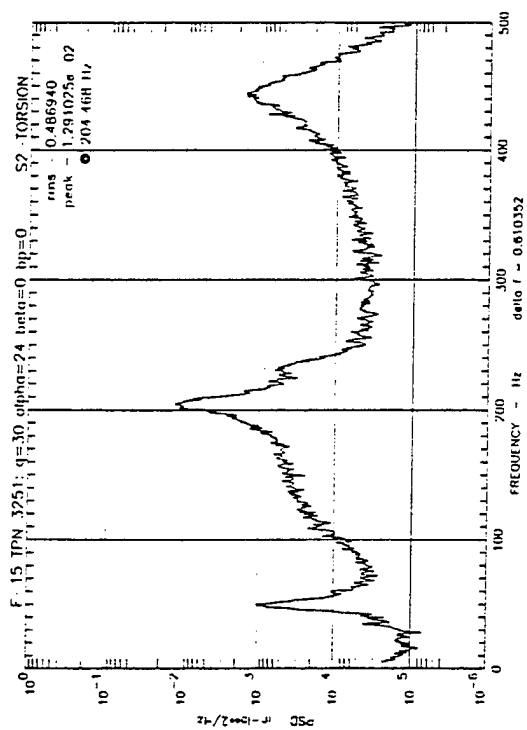
**FLEXIBLE TAIL RESPONSE
DIMENSIONAL BENDING AND TORSION**

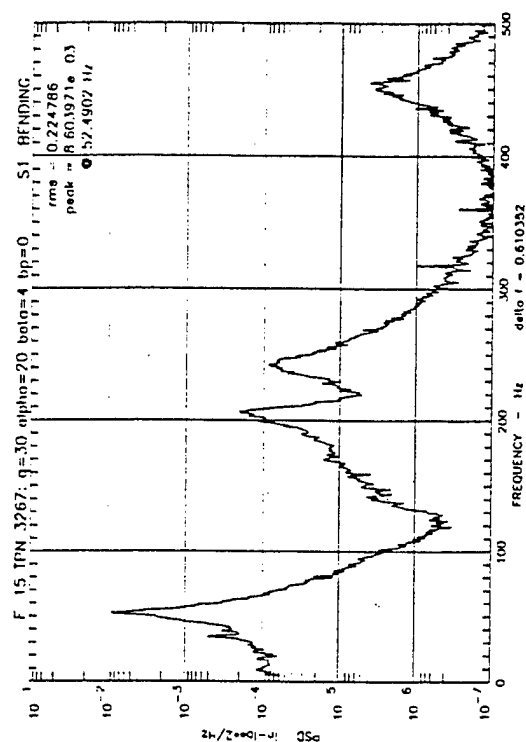
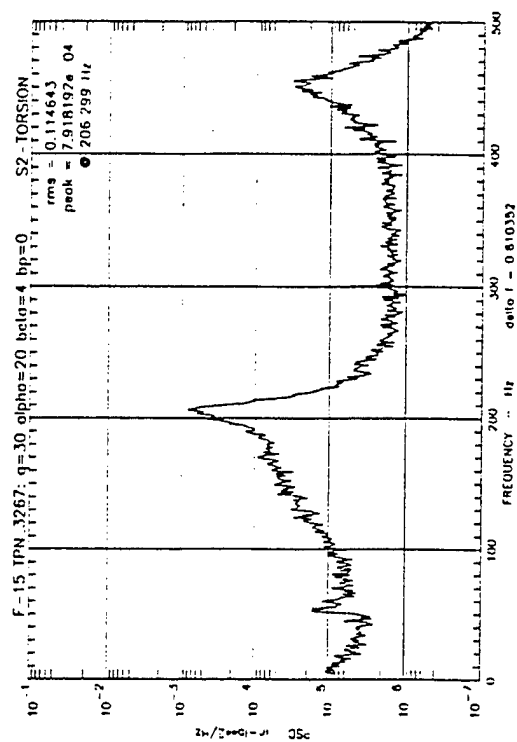
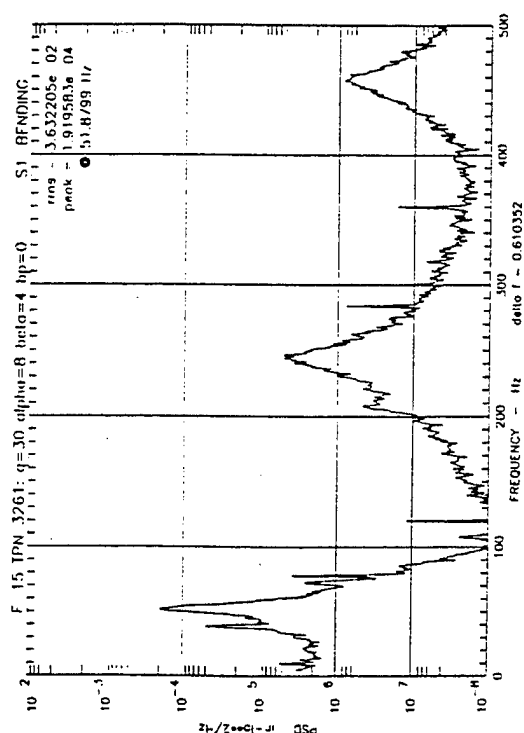
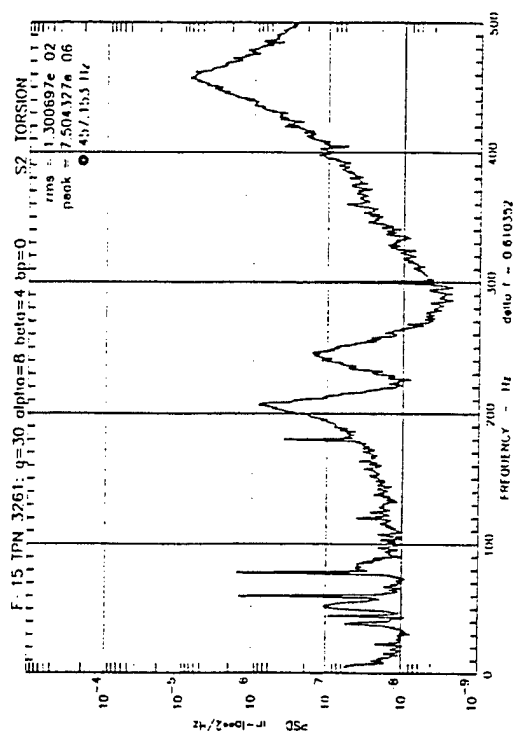
PSD GRAPHS

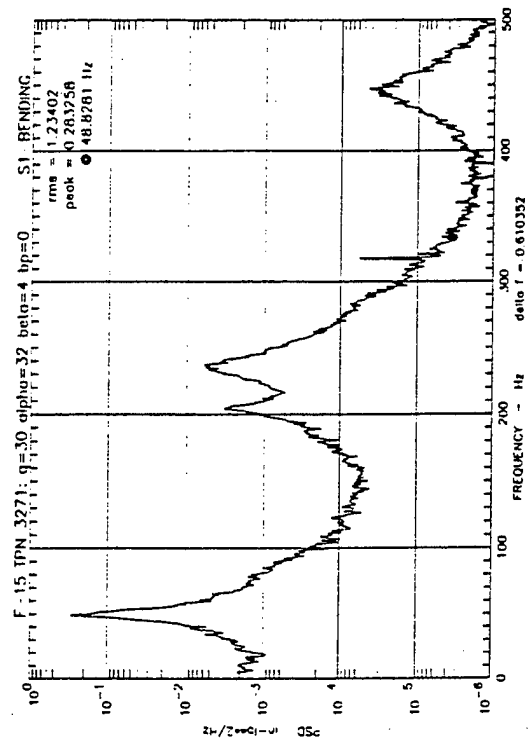
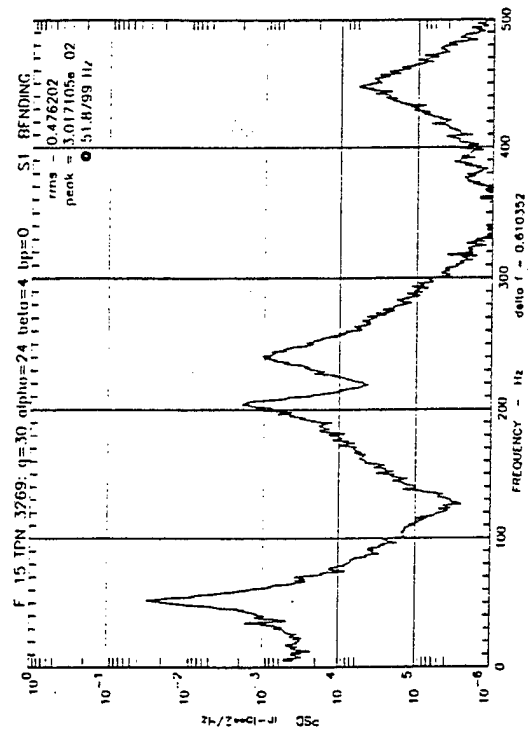
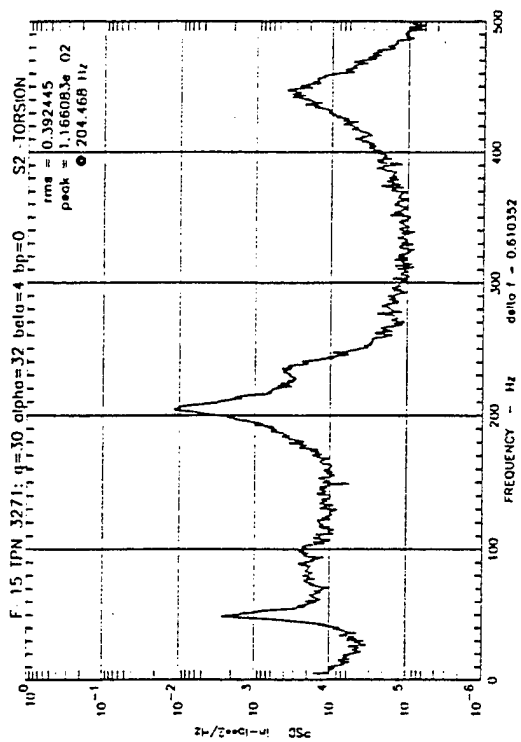
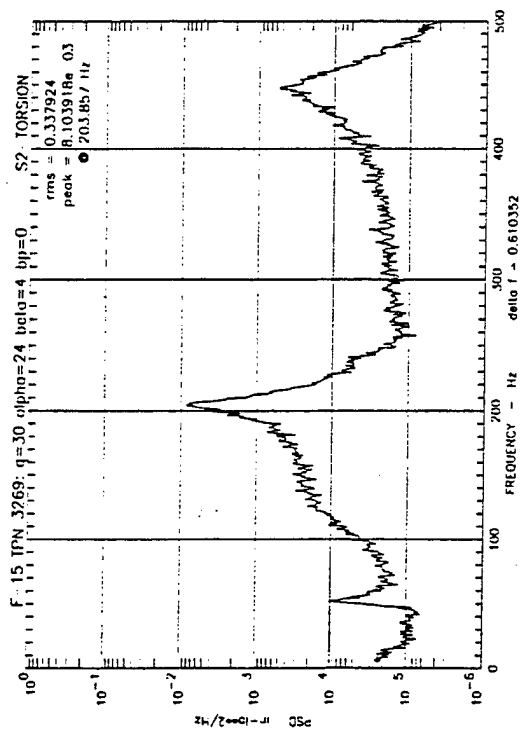
Q= 30 PSF

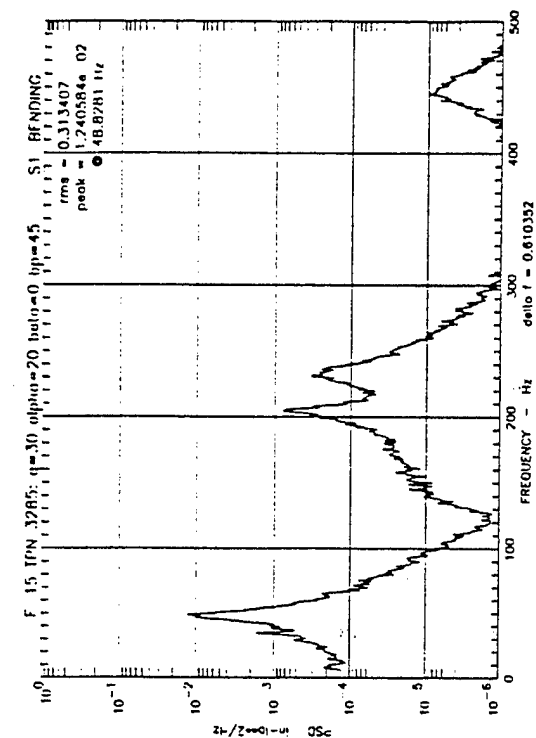
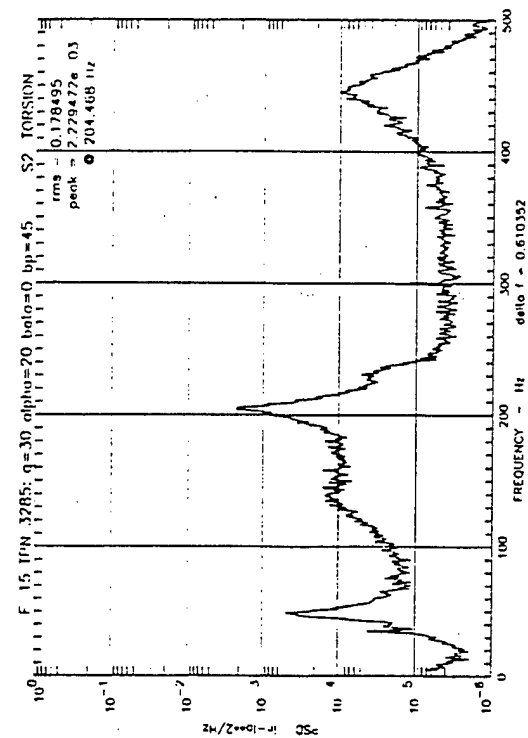
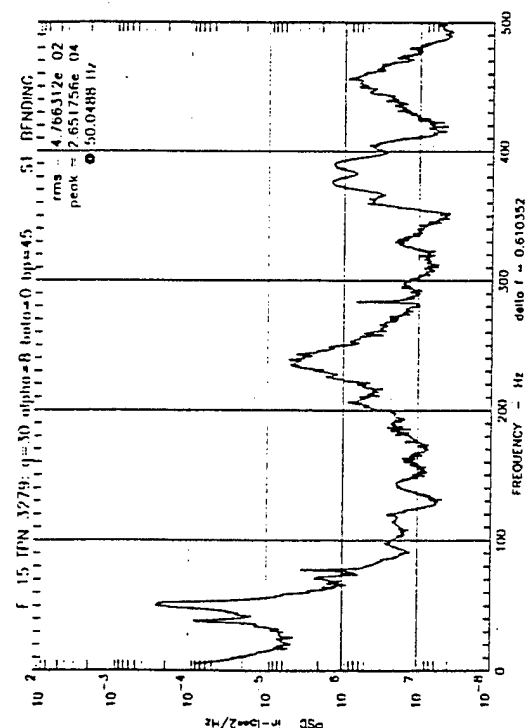
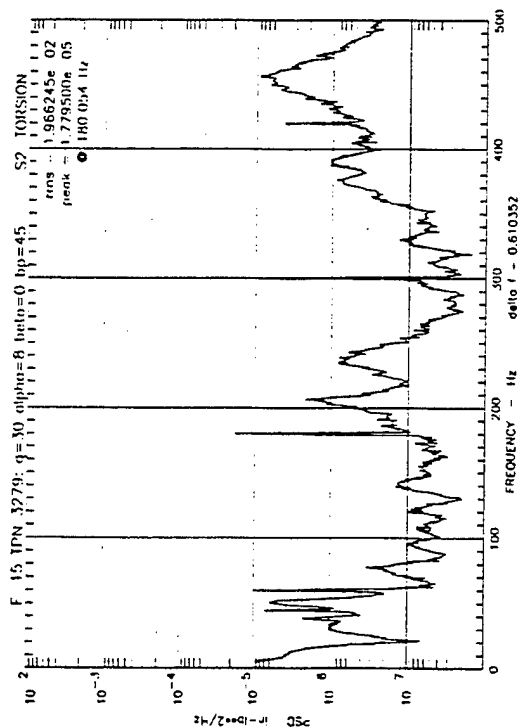
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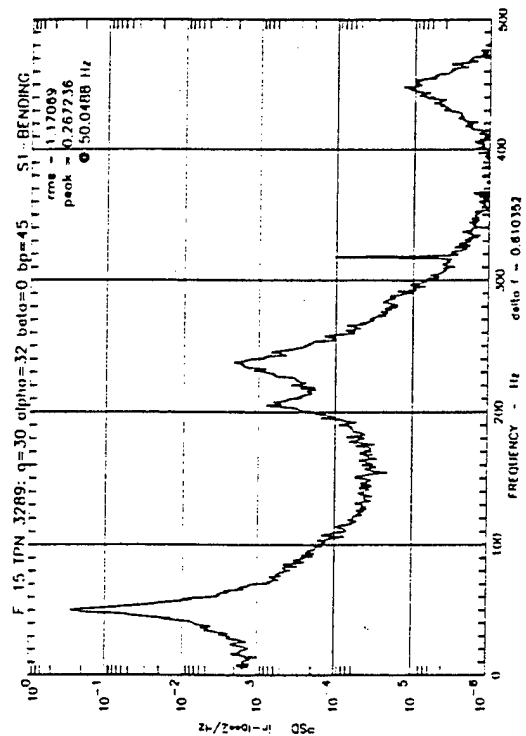
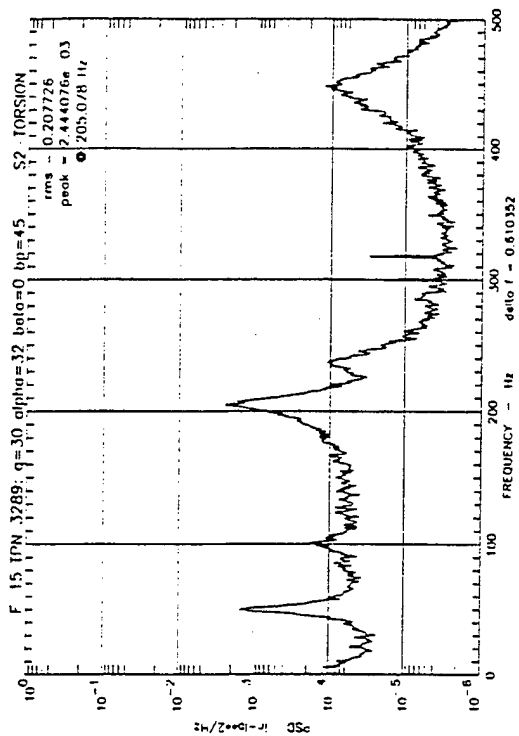
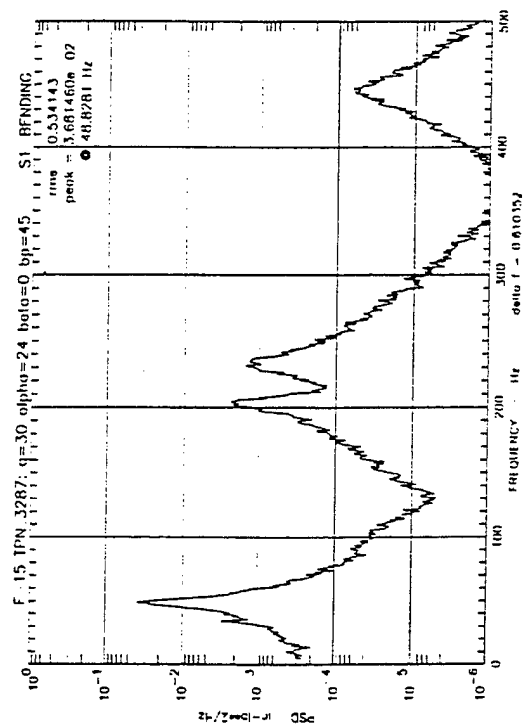
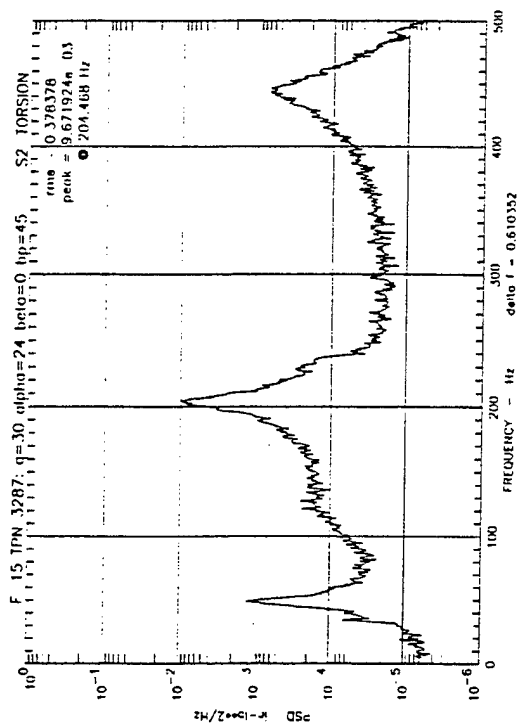


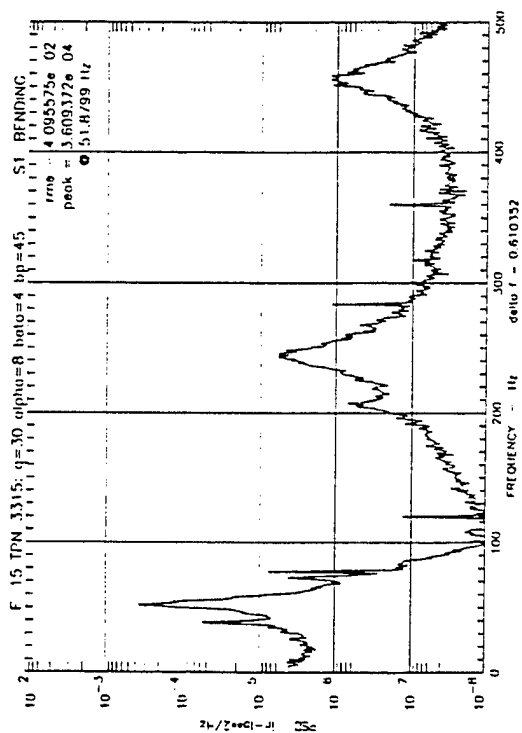
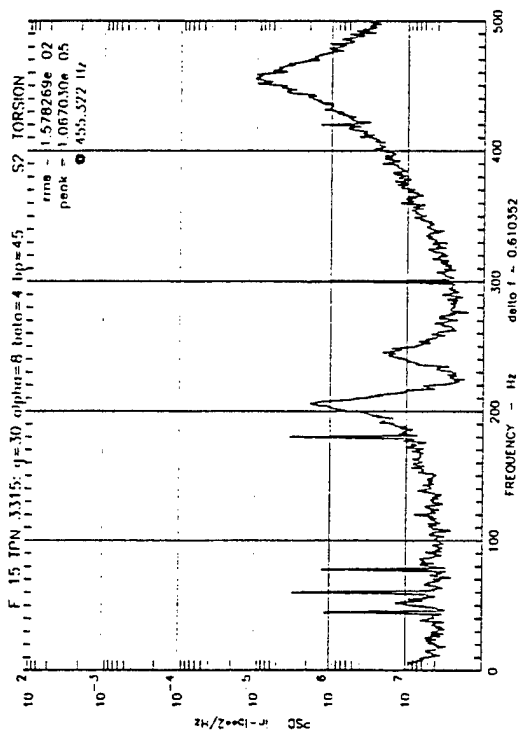
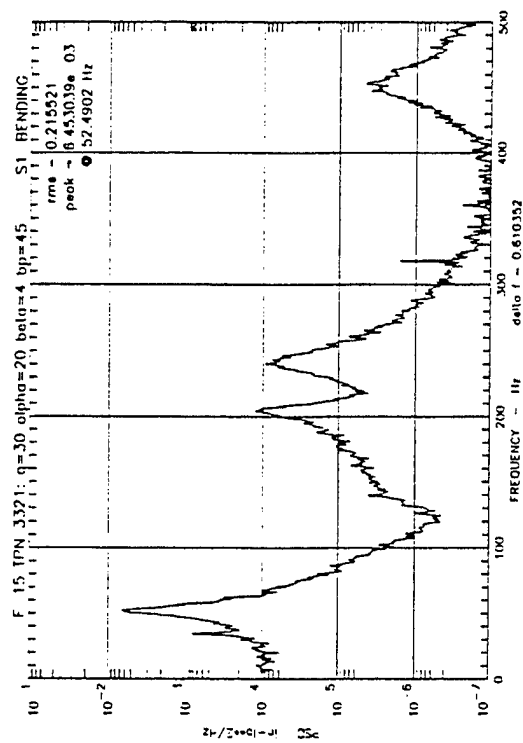
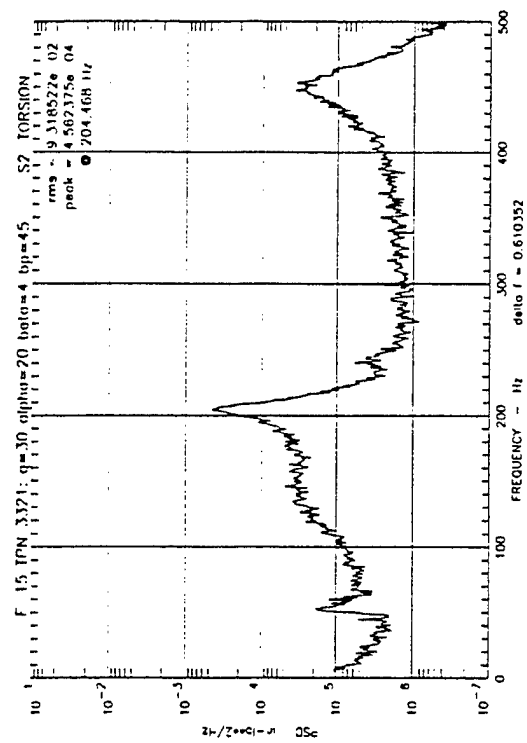


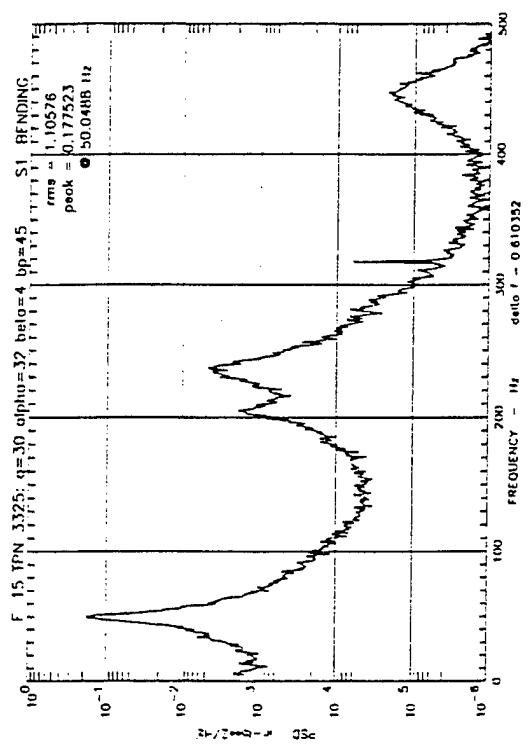
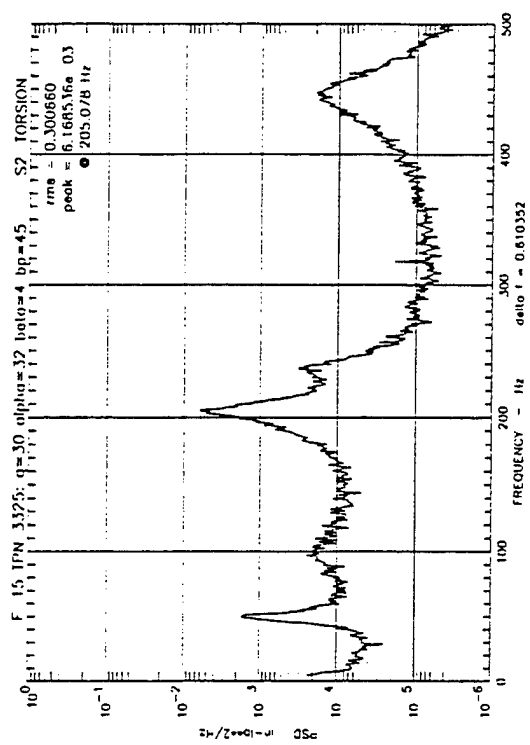
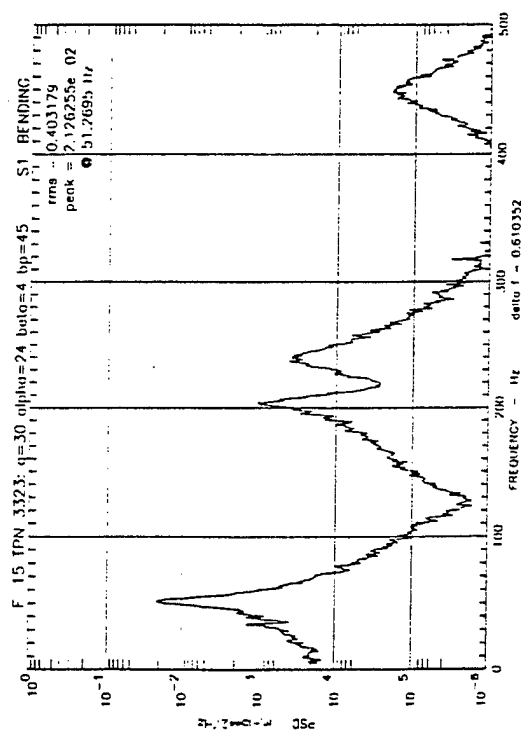
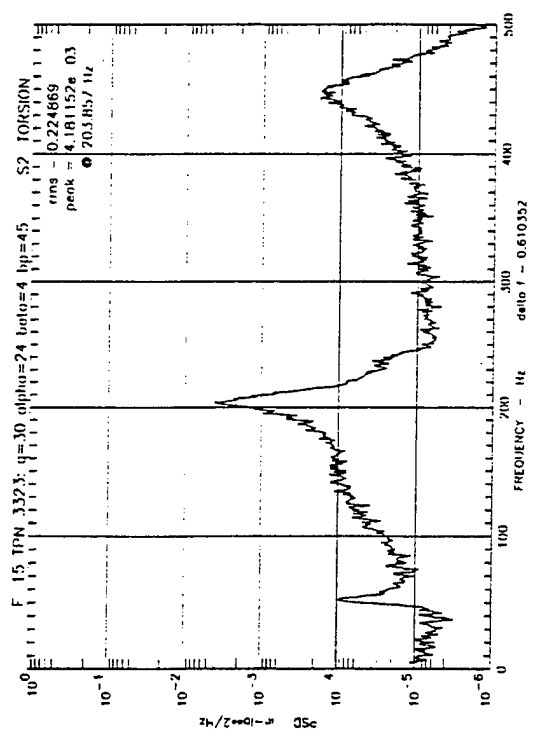


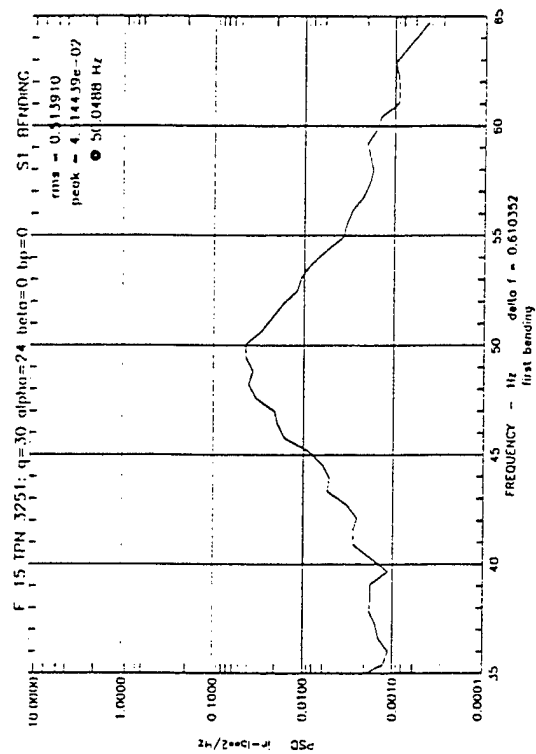
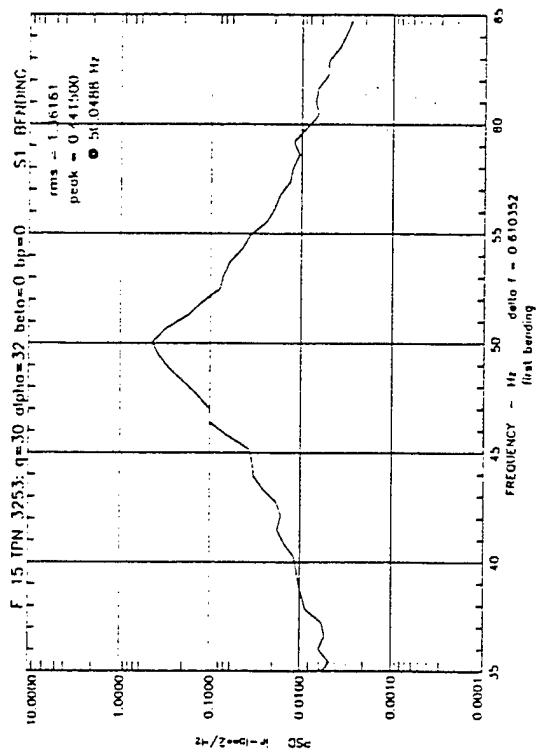
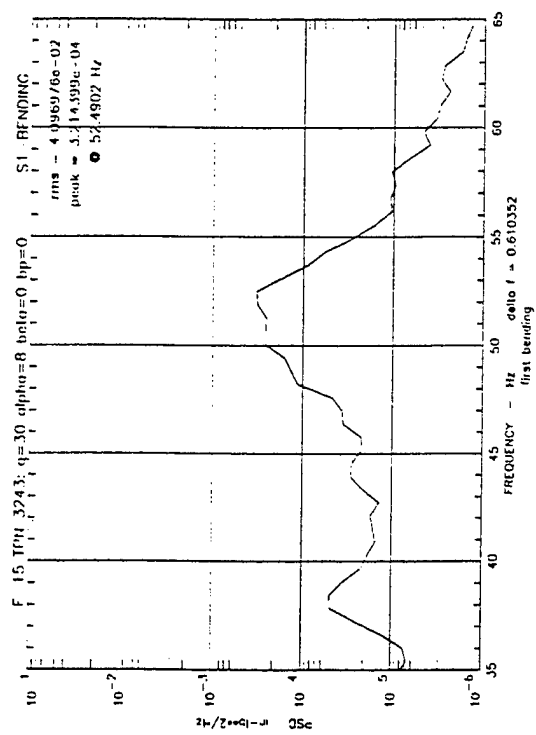
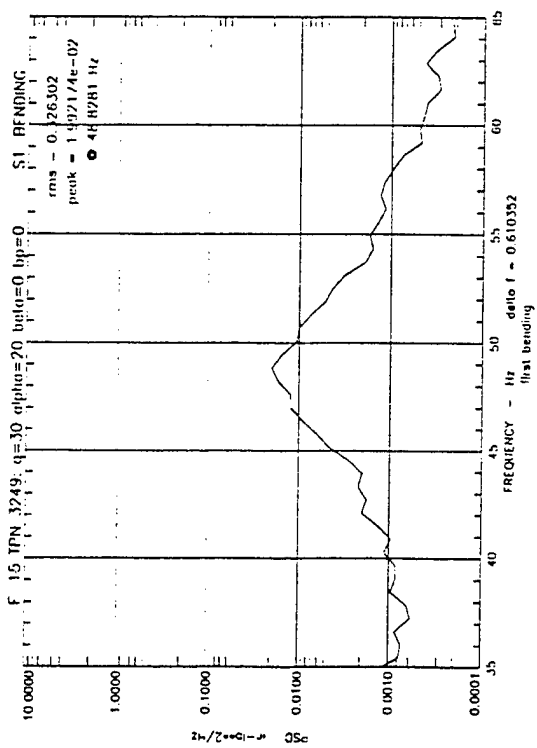


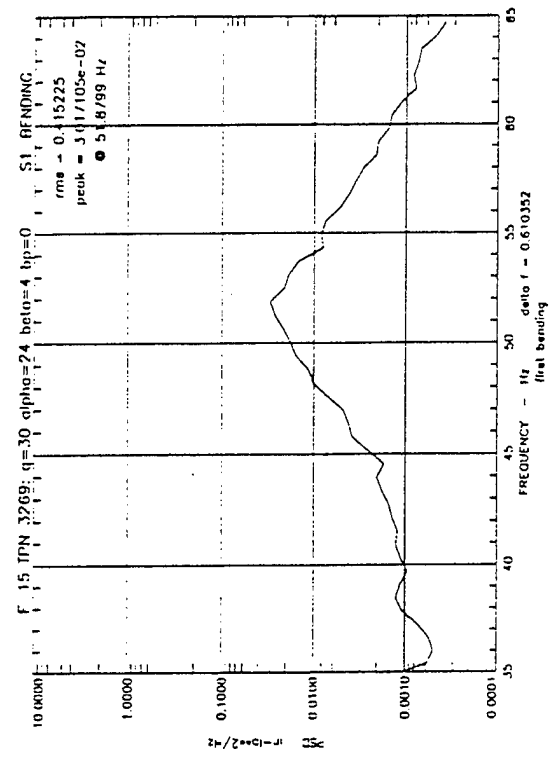
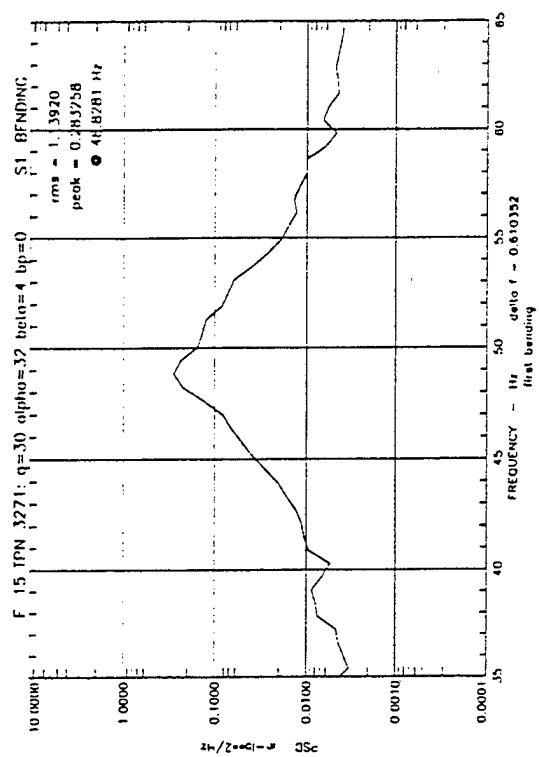
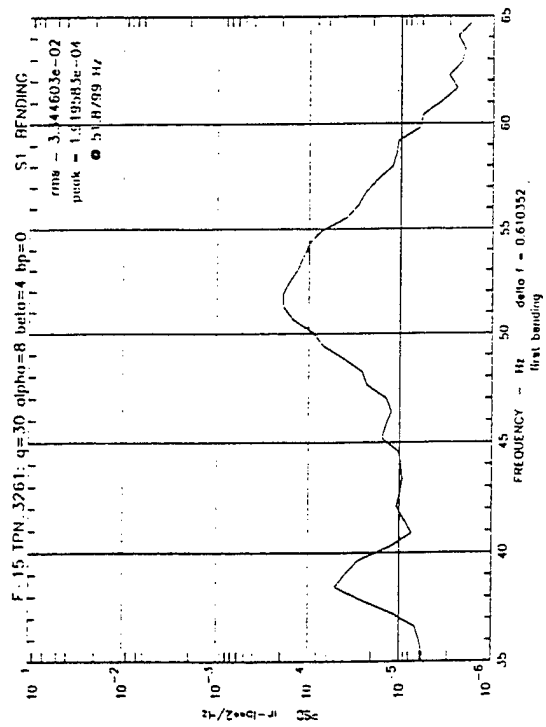
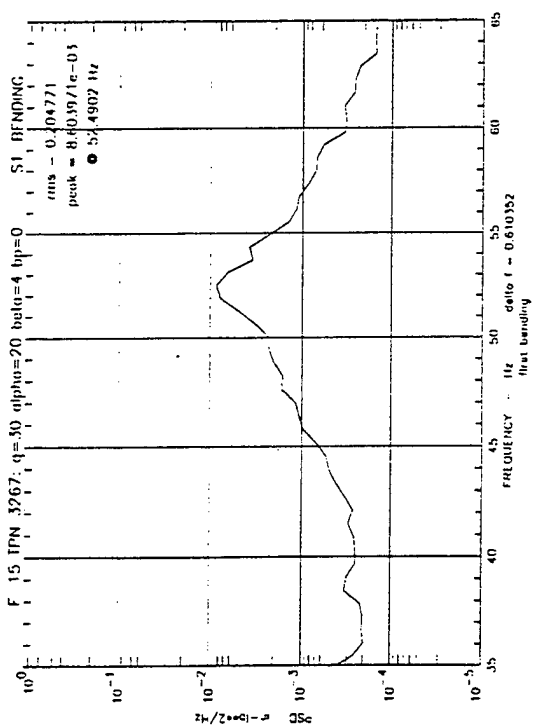


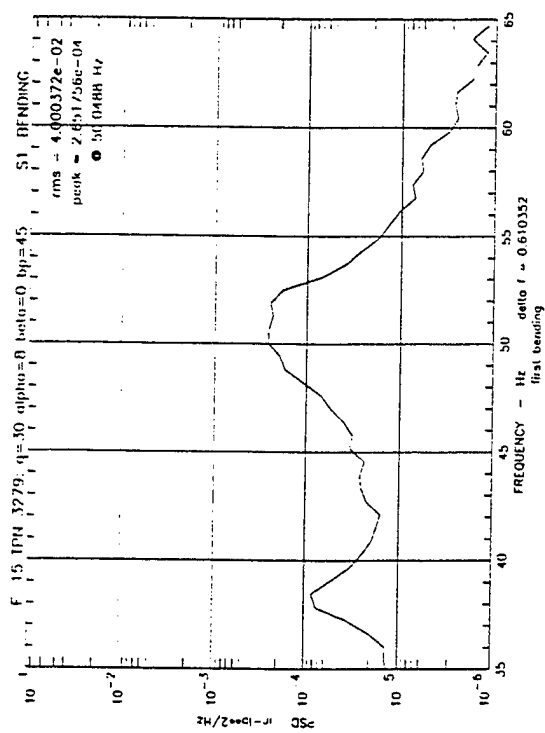
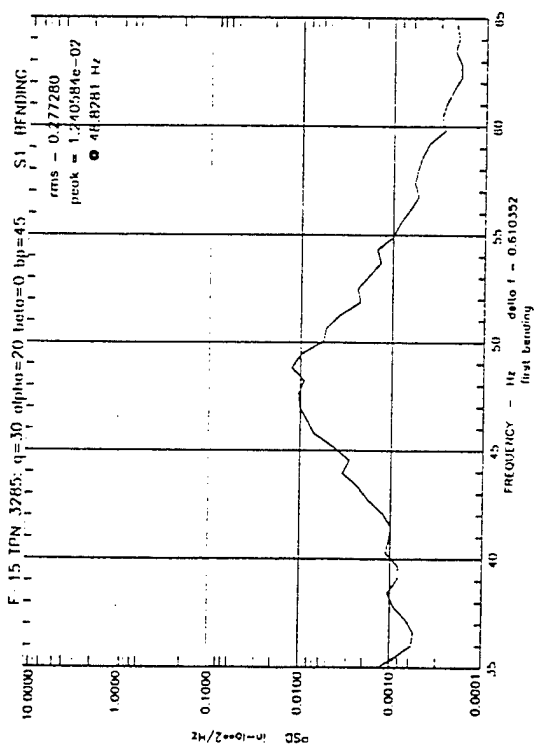
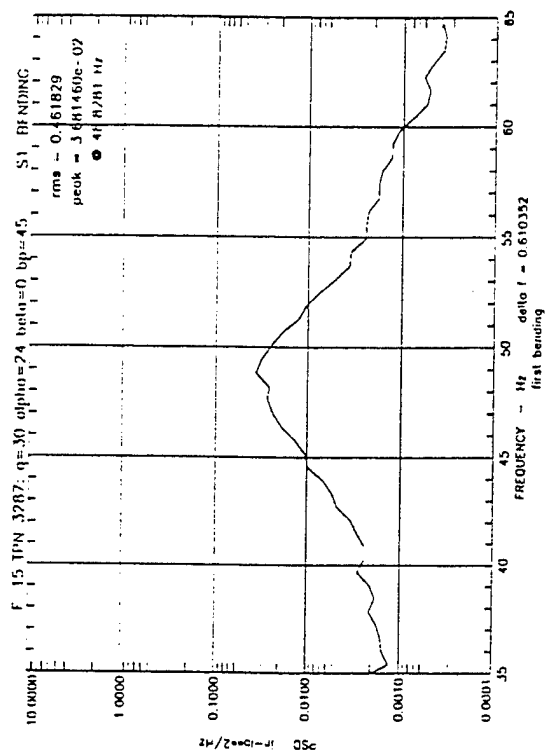
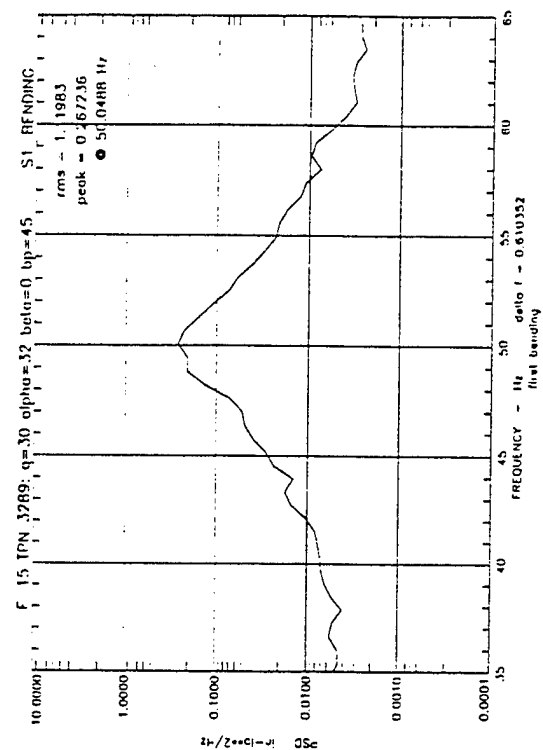


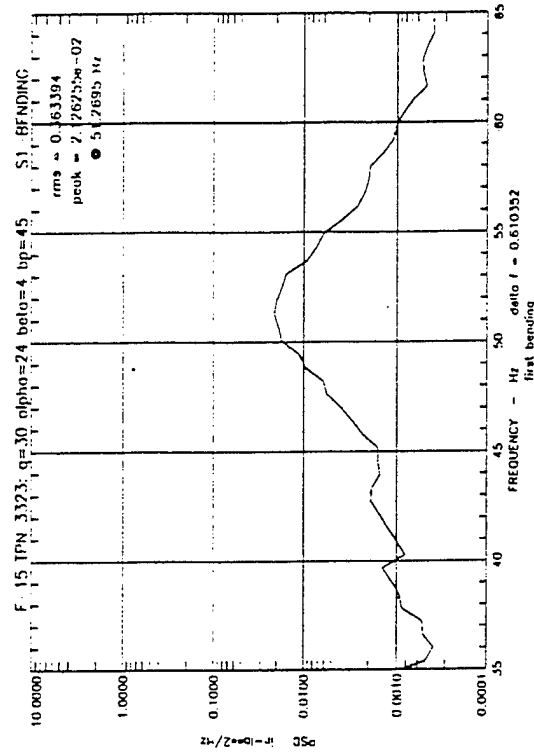
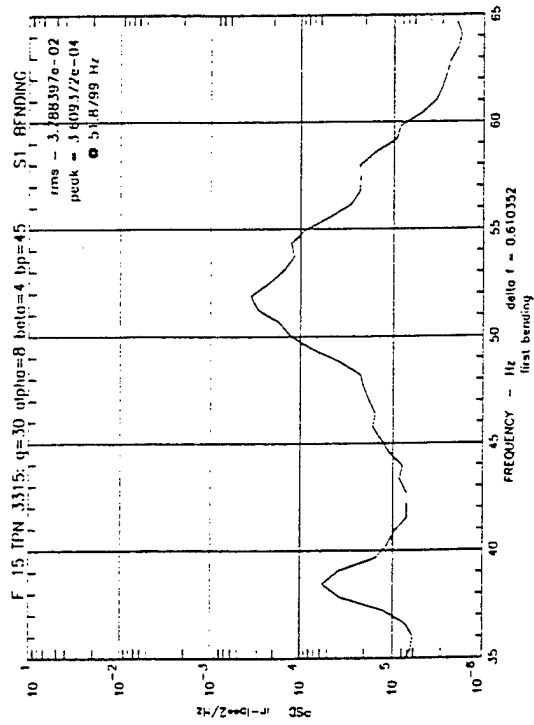
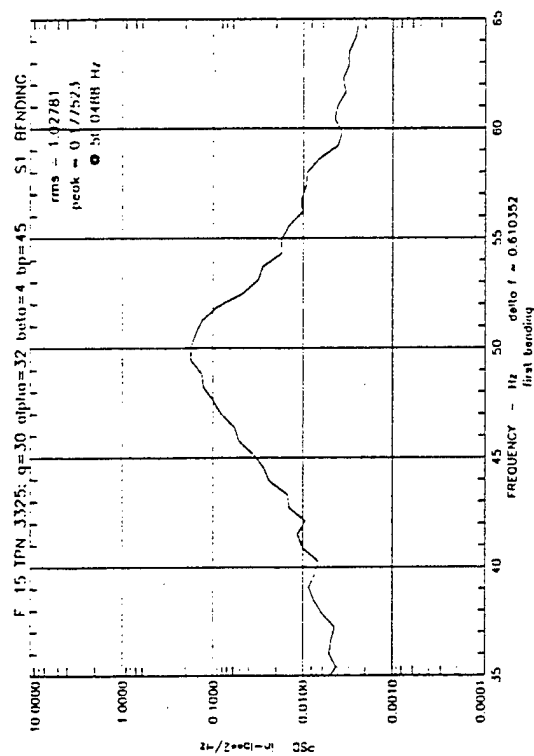
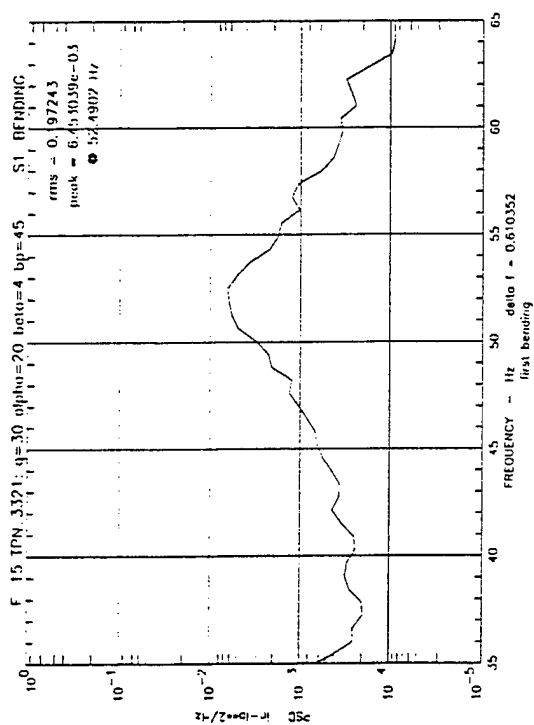


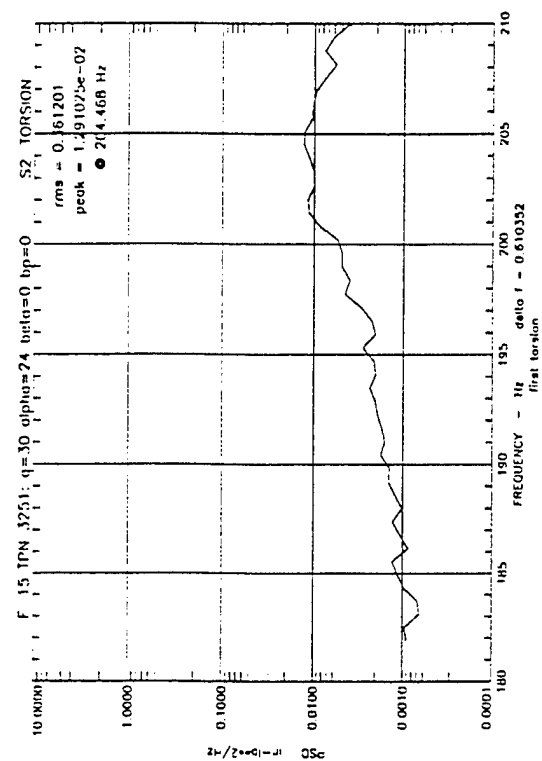
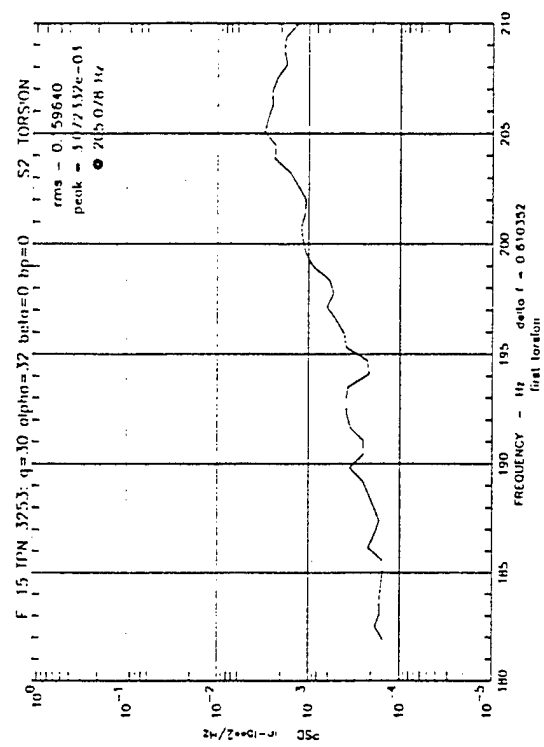
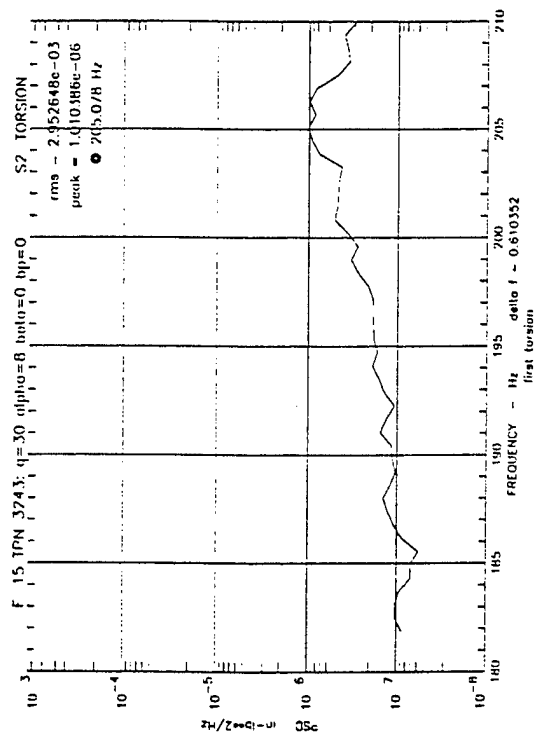
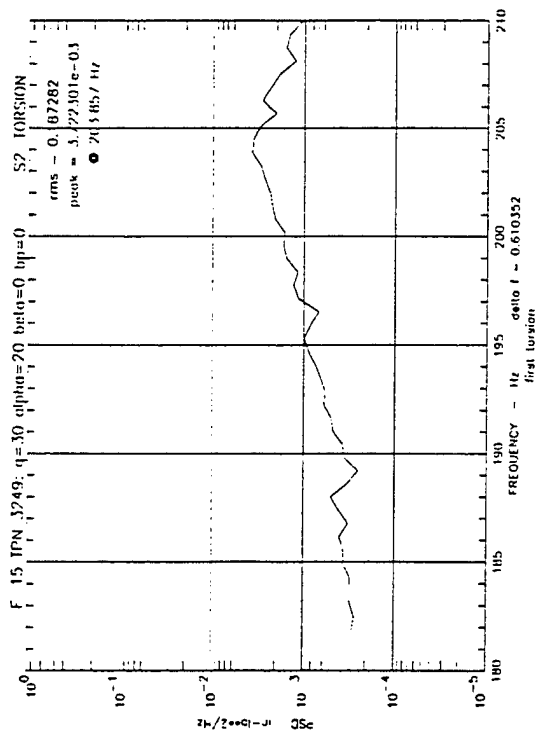


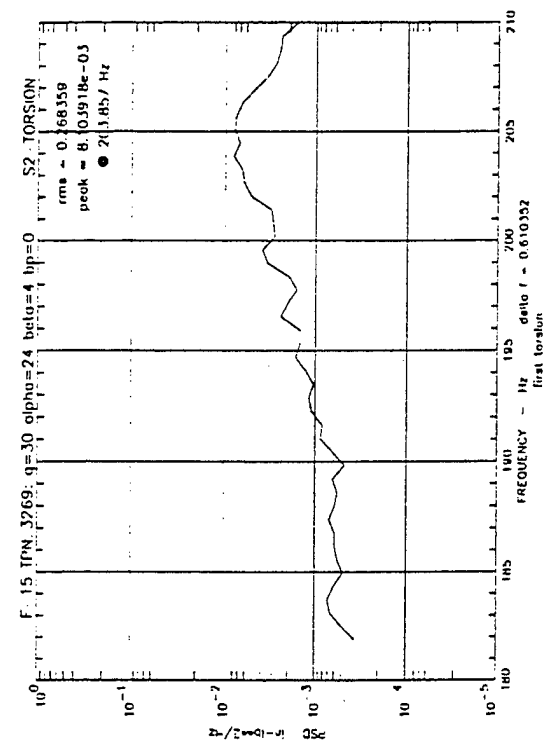
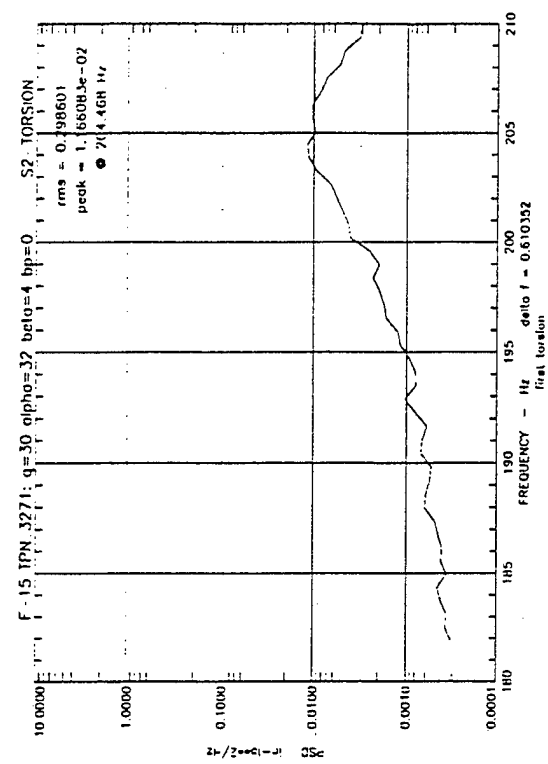
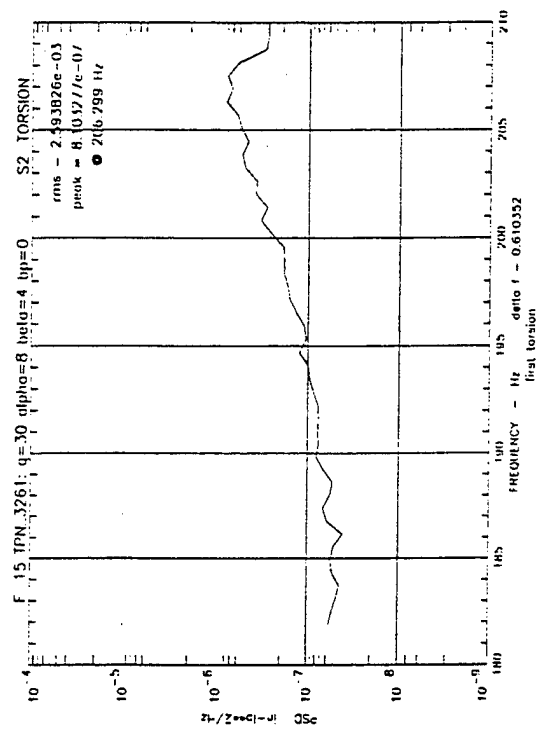
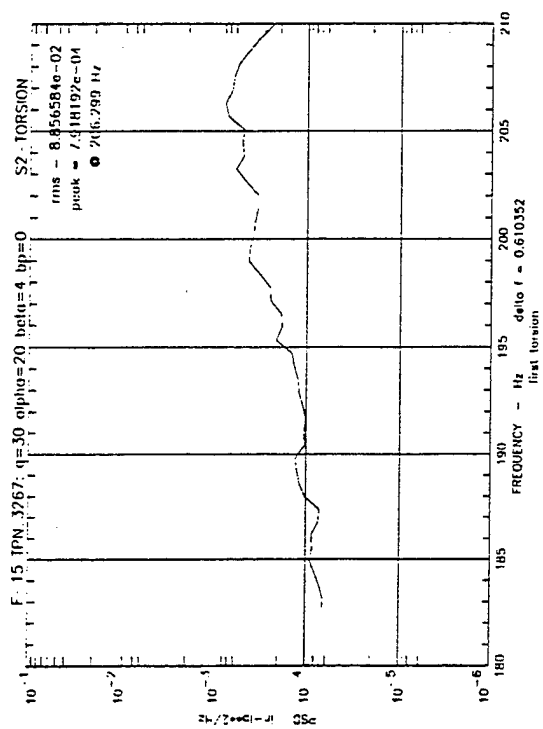


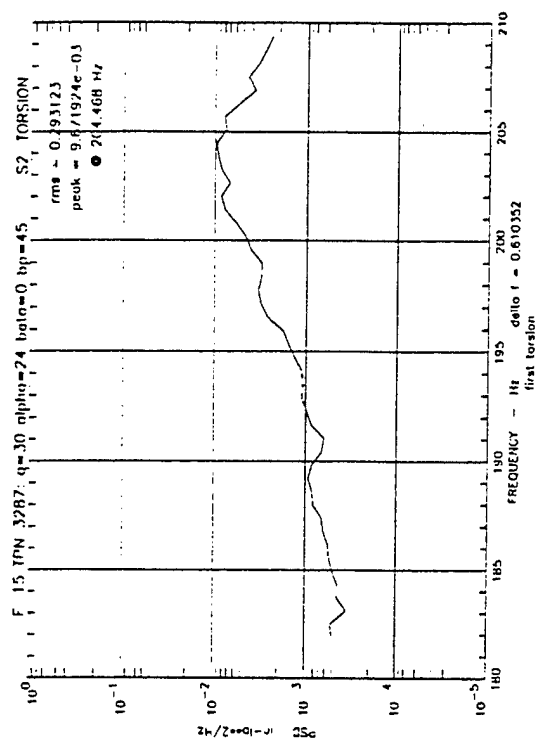
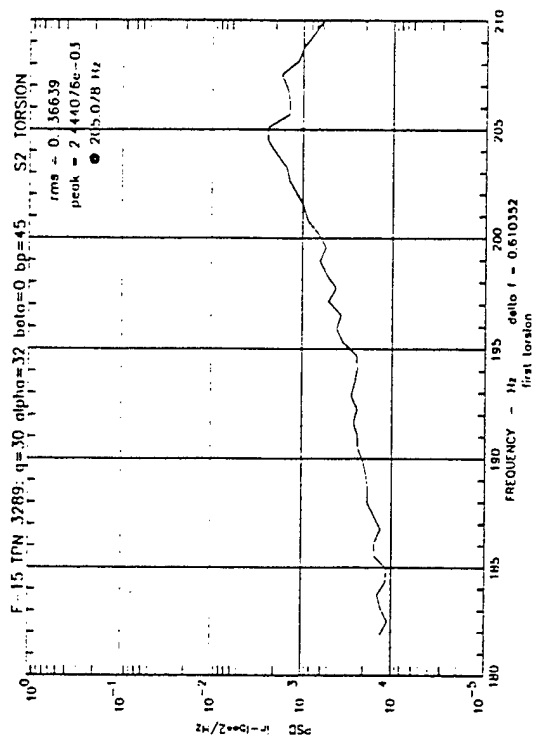
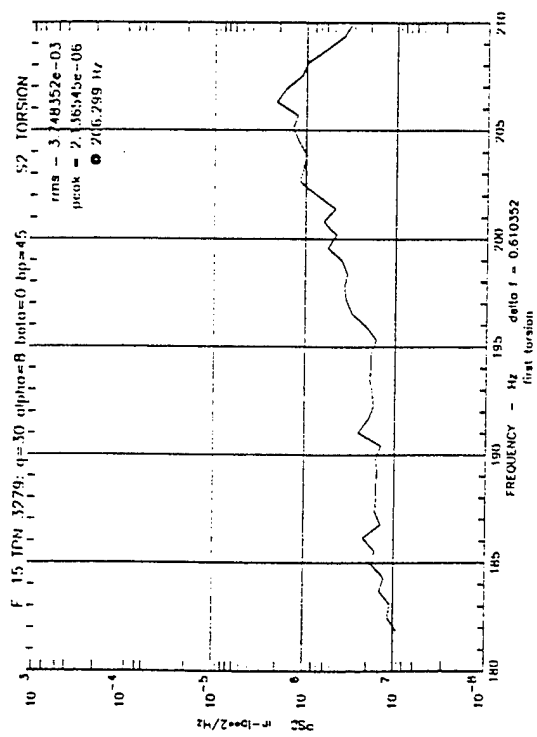
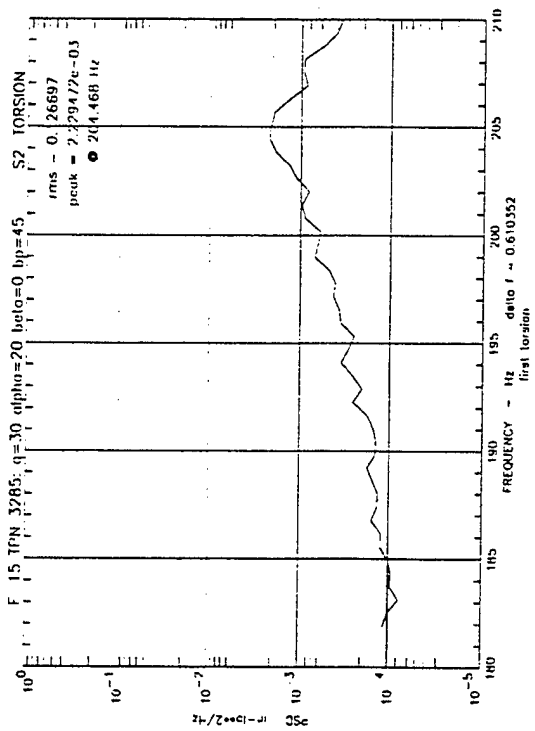


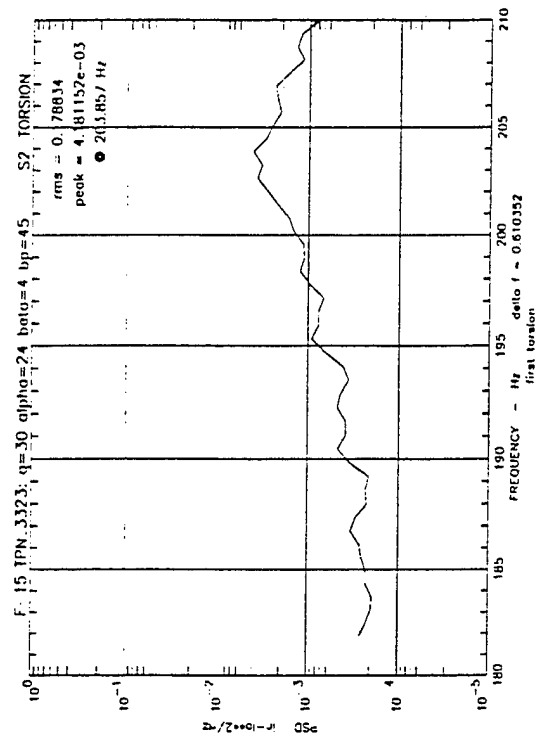
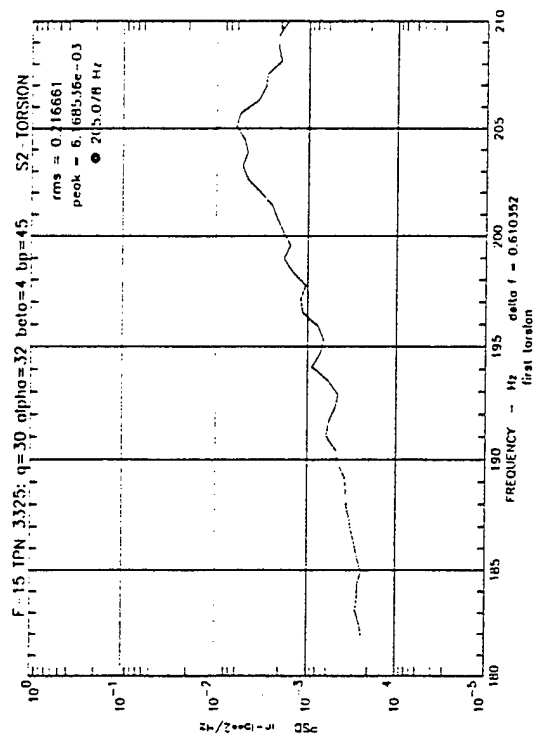
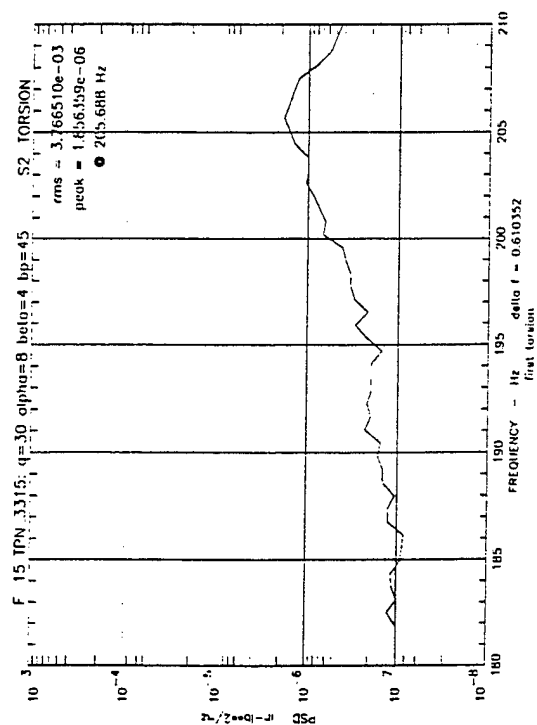
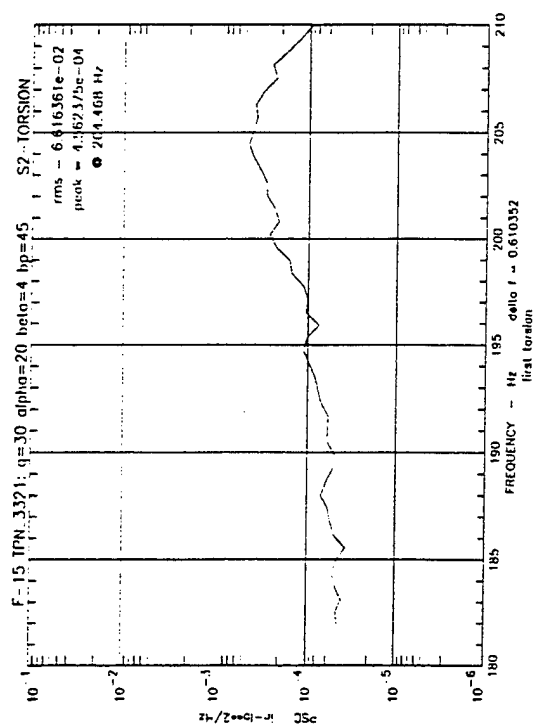


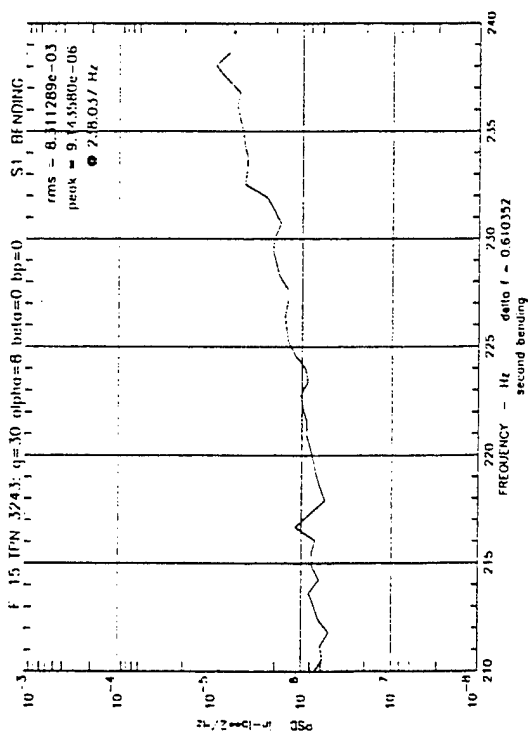
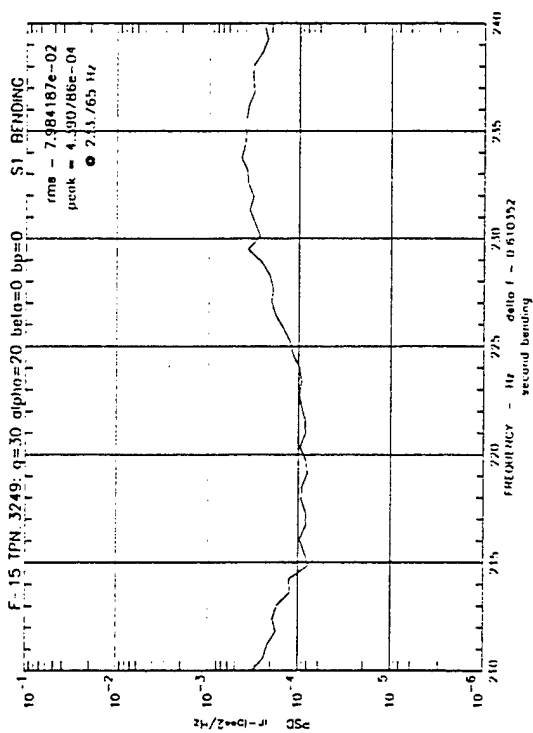
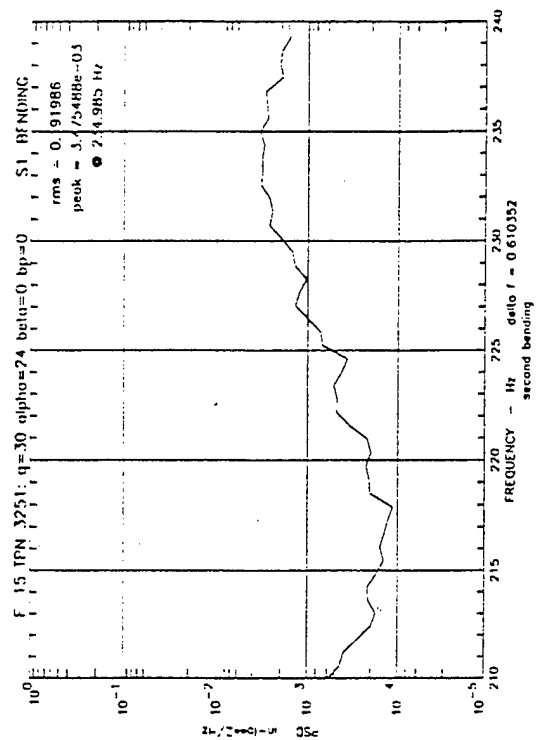
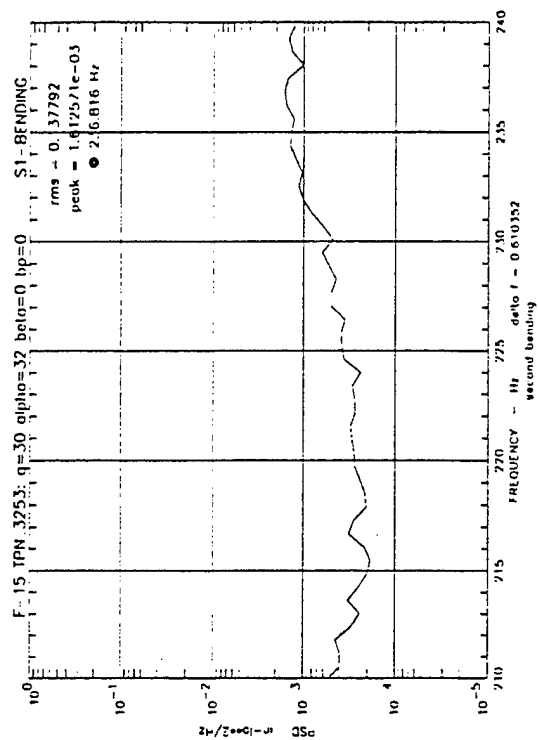


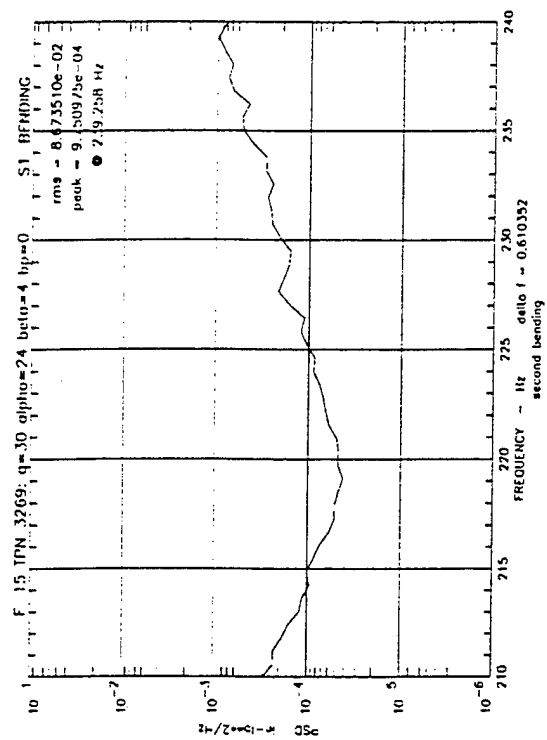
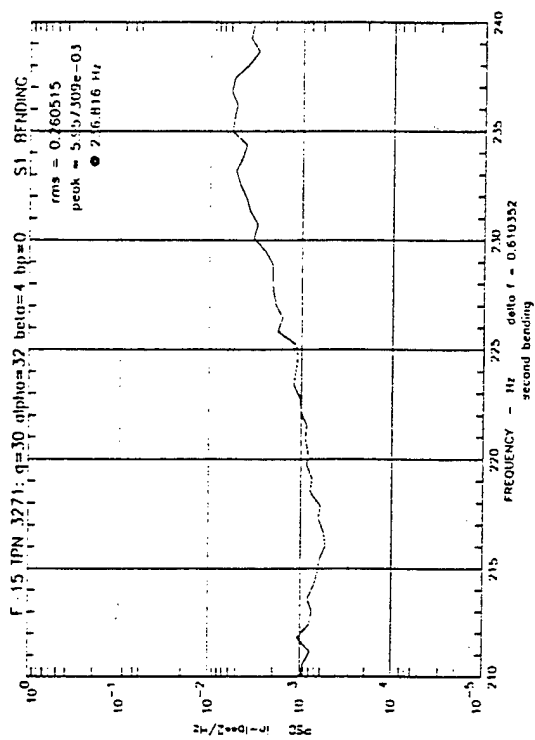
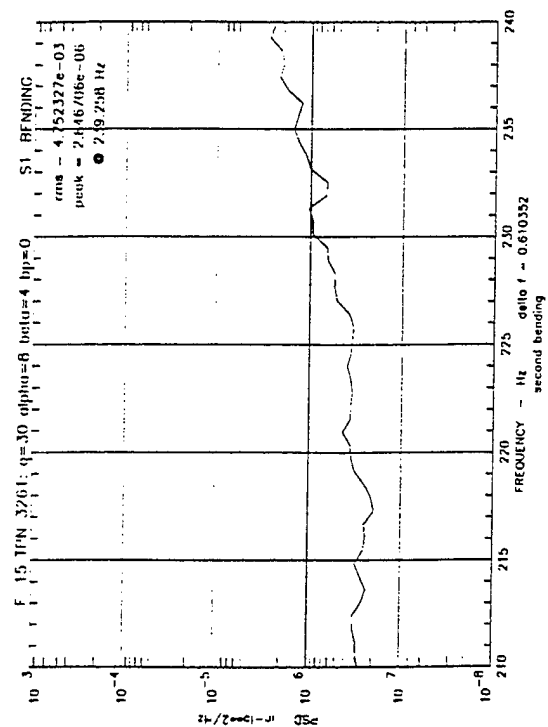
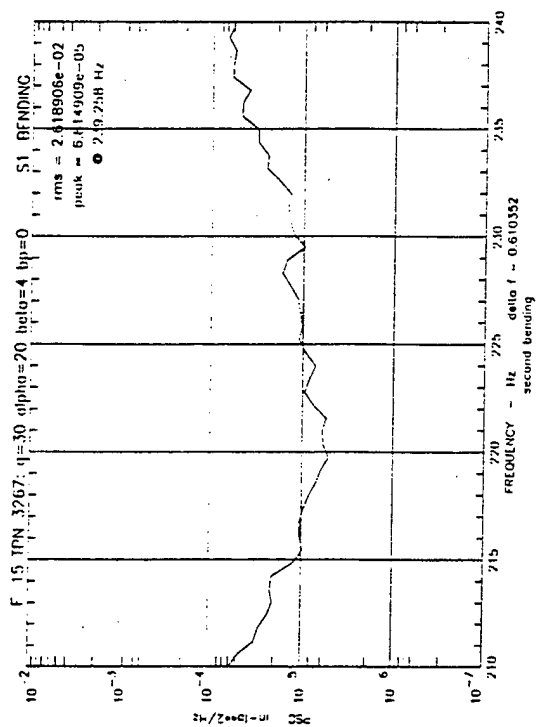


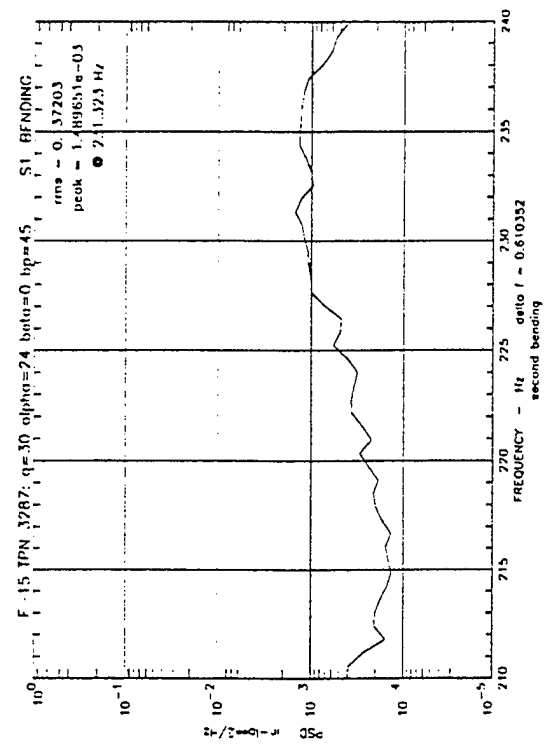
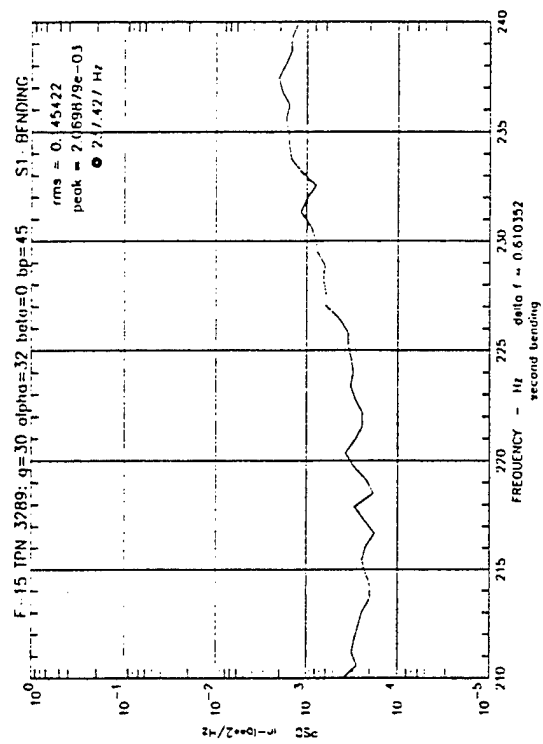
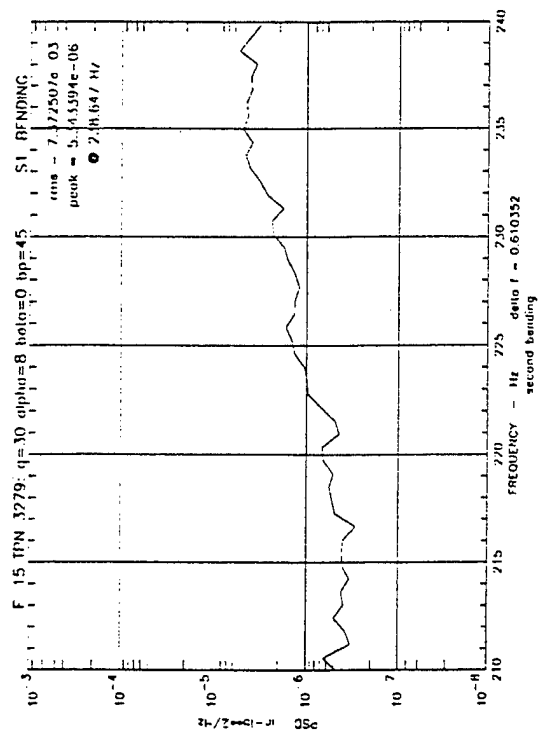
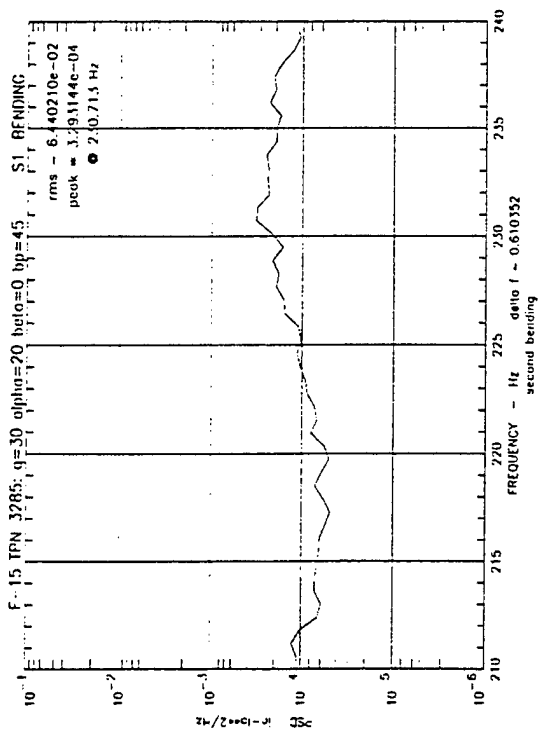


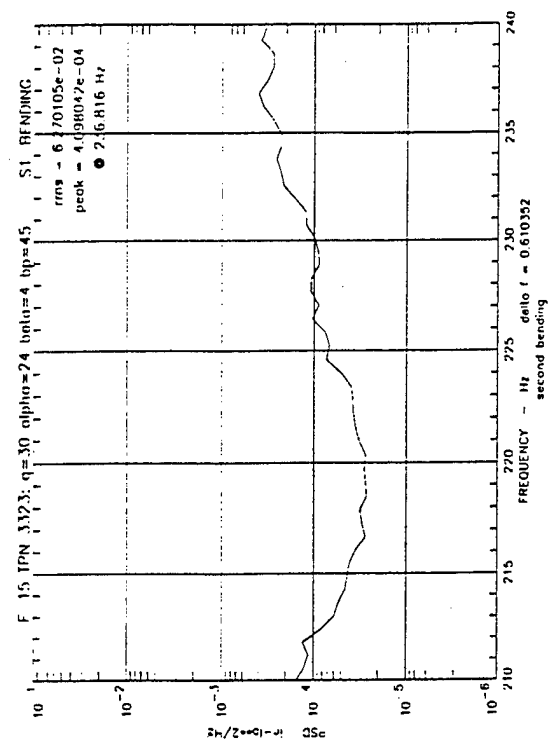
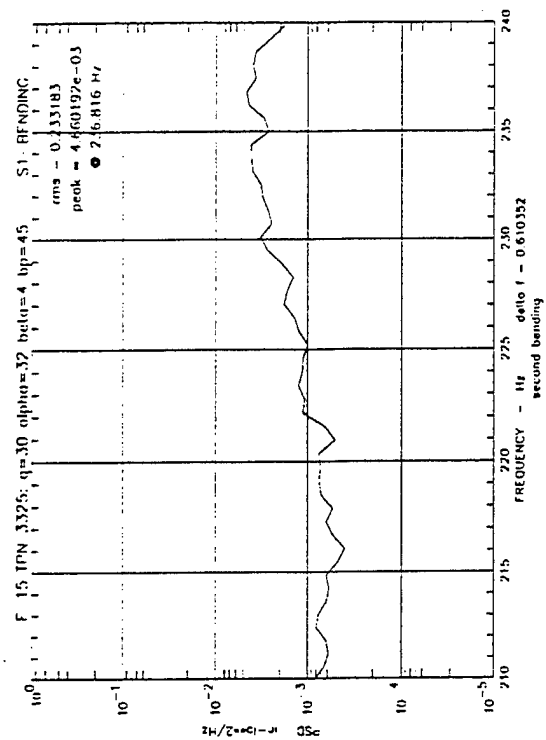
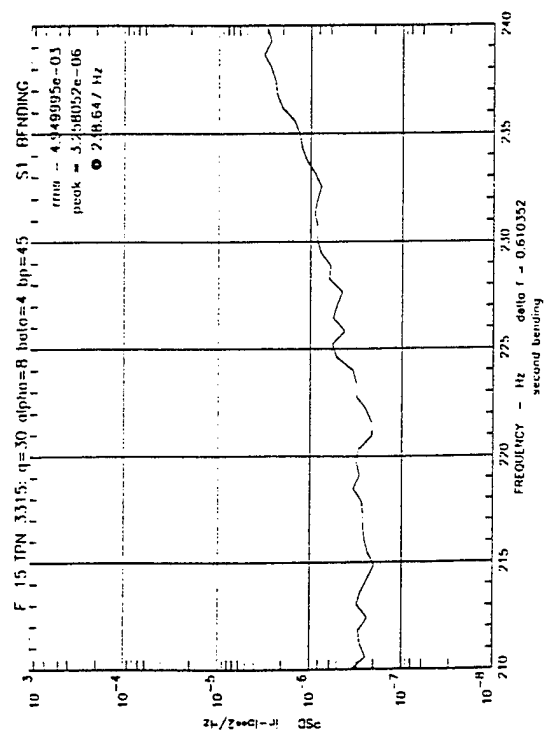
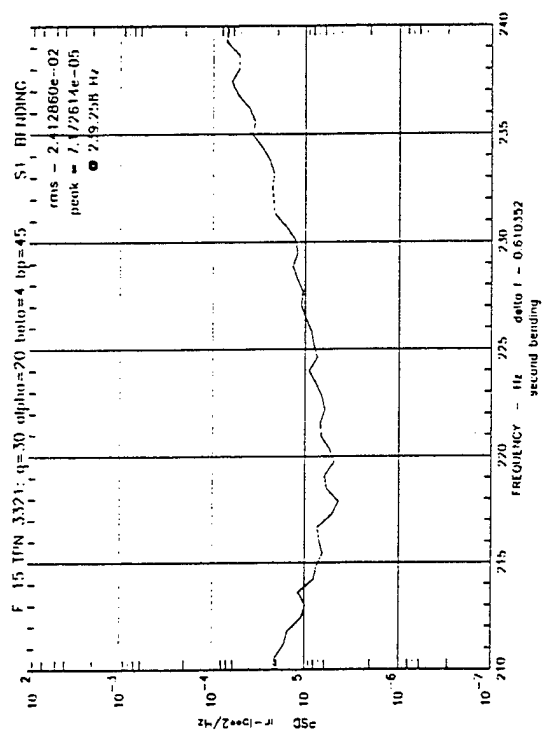












**FLEXIBLE TAIL RESPONSE
DIMENSIONAL BENDING AND TORSION**

Q= 30 PSF

**2.2.2 RMS SUMMARY TABS- WBP =0, 45 psi, BETA = 0, +4, -4,
ALPHA= 8....32 DEG**

F-15 Vertical Tail Buffet Test: Overall RMS (in-lb), Q=30 psi

0 psi blowing pressure:

<u>Beta</u>	<u>Alpha</u>	<u>bending</u> <u>5-500 Hz</u>	<u>torsion</u> <u>5-500 Hz</u>	<u>1st bending</u> <u>35-65 Hz</u>	<u>1st torsion</u> <u>180-210 Hz</u>	<u>2nd bending</u> <u>210-240 Hz</u>
4	8	.03632	.01300	.03345	.00259	.00475
4	20	.22480	.11460	.20480	.08857	.02619
4	24	.47620	.33790	.41520	.26840	.08674
4	32	1.23400	.39240	1.13900	.29860	.26050
0	8	.04432	.01743	.04100	.00295	.00831
0	20	.37270	.24610	.32630	.18730	.07984
0	24	.61300	.48690	.51390	.36120	.19200
0	32	1.41400	.24500	1.36200	.15960	.13780

45 psi blowing pressure:

<u>Beta</u>	<u>Alpha</u>	<u>bending</u> <u>5-500 Hz</u>	<u>torsion</u> <u>5-500 Hz</u>	<u>1st bending</u> <u>35-65 Hz</u>	<u>1st torsion</u> <u>180-210 Hz</u>	<u>2nd bending</u> <u>210-240 Hz</u>
4	8	.04100	.01578	.03788	.00377	.00495
4	20	.21550	.09318	.19720	.06616	.02413
4	24	.40320	.22490	.36340	.17880	.06270
4	32	1.10600	.30070	1.02800	.21670	.23320
0	8	.04766	.01966	.04000	.00375	.00737
0	20	.31340	.17850	.27730	.12670	.06440
0	24	.53410	.37840	.46180	.29310	.13720
0	32	1.17100	.20770	1.12000	.13660	.14540

gpa John 11/11

Pages 226 through 248 have been omitted because they were a duplication of previous data.

3. NONDIMENSIONAL BENDING AND TORSION DATA

3.1 Q = 56 PSF

3.1.1 PSD GRAPHS

3.1.1.1 WBP = 0, 45, 65 psi

3.1.1.2 GBP = 65 psi

3.1.1.3 GBP = 65 psi, WBP = 65 psi

3.1.1.4 NBP = 87 psi

3.1.1.5 NBP = 87 psi, GBP = 65 psi

3.1.1.6 NBP = 87 psi, WBP = 65 psi

3.1.2 RMS SUMMARY TABLES

3.2 Q = 30 PSF

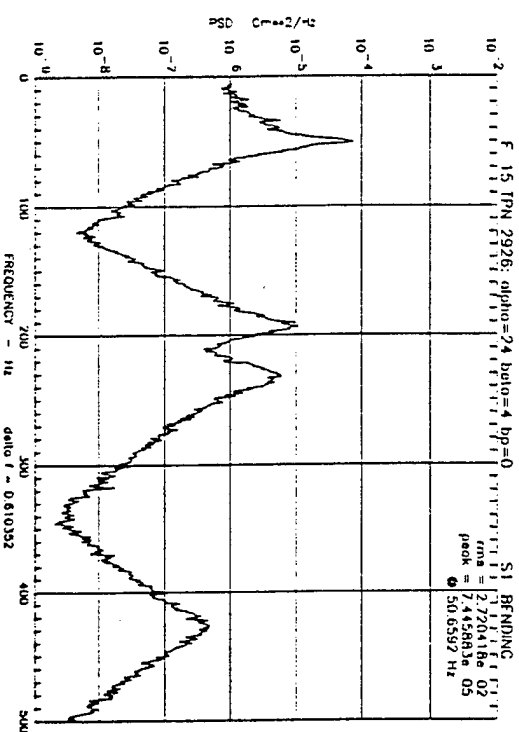
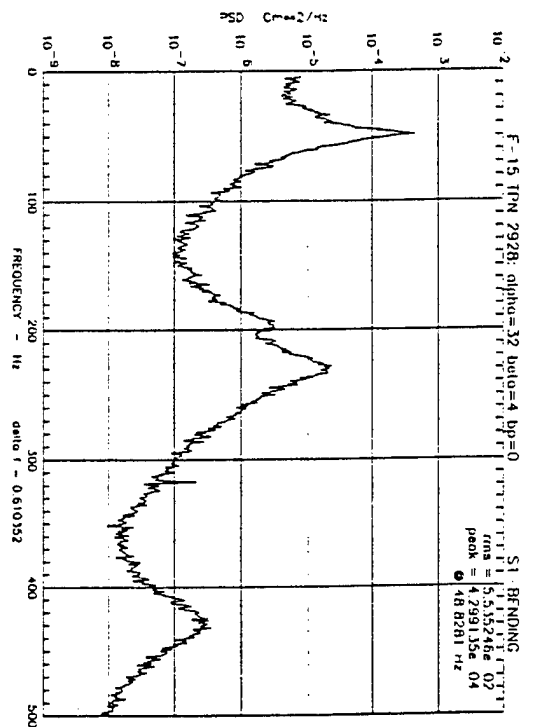
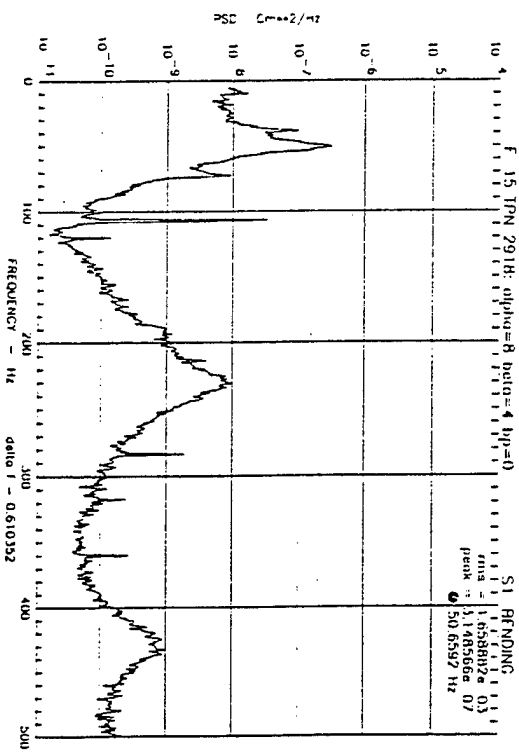
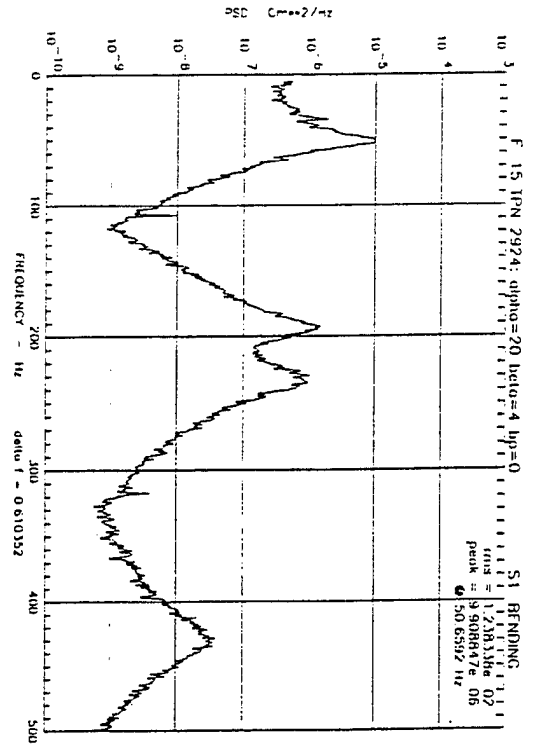
3.2.1 PSD GRAPHS - WBP = 0, 45 psi

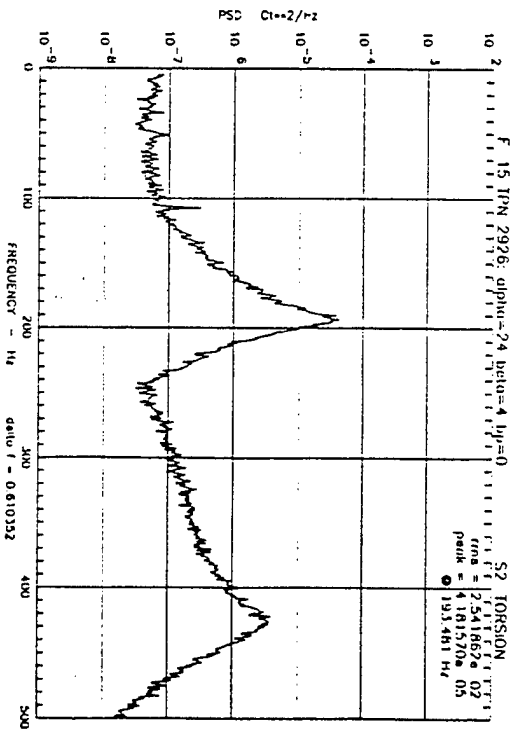
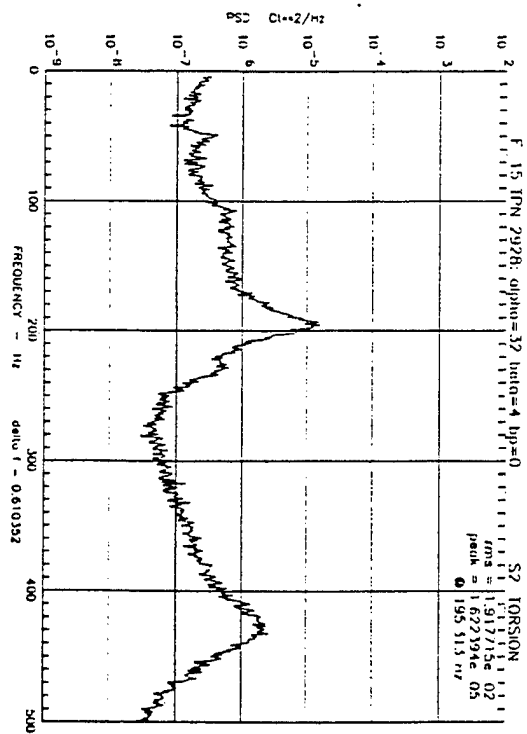
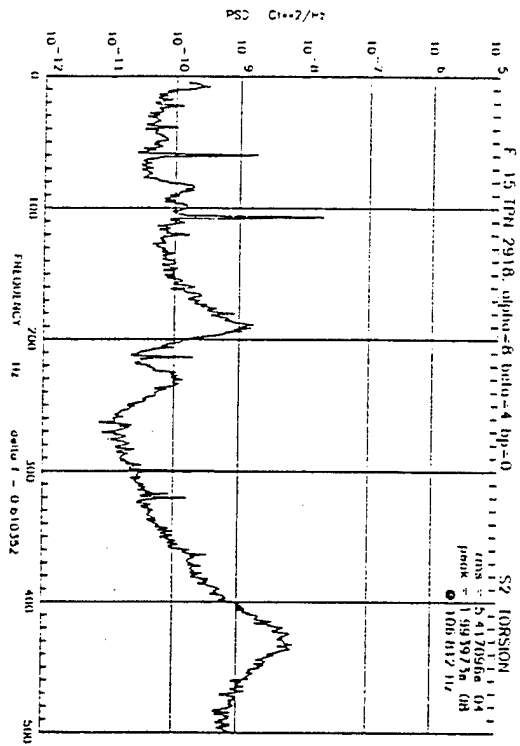
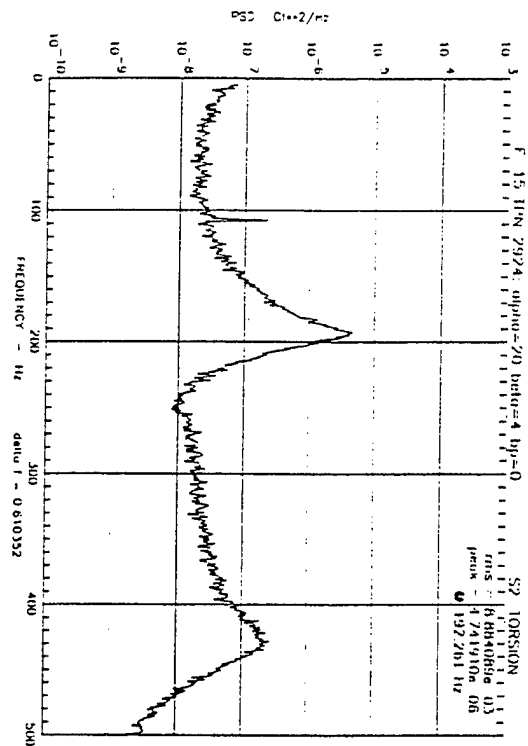
3.2.2 RMS SUMMARY TABLES

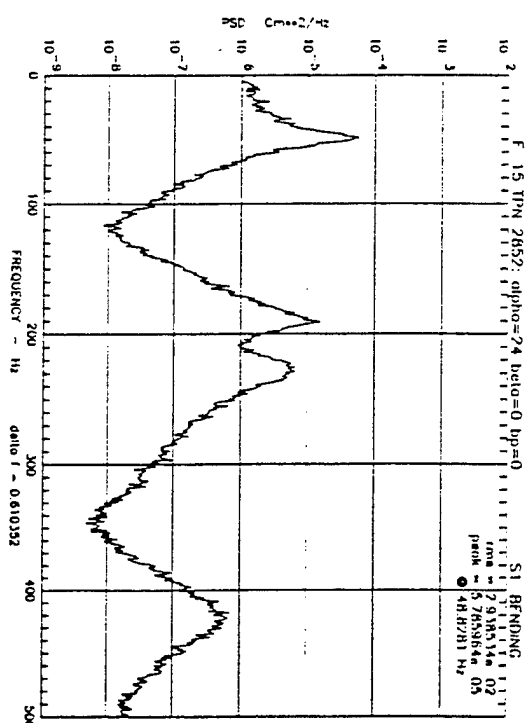
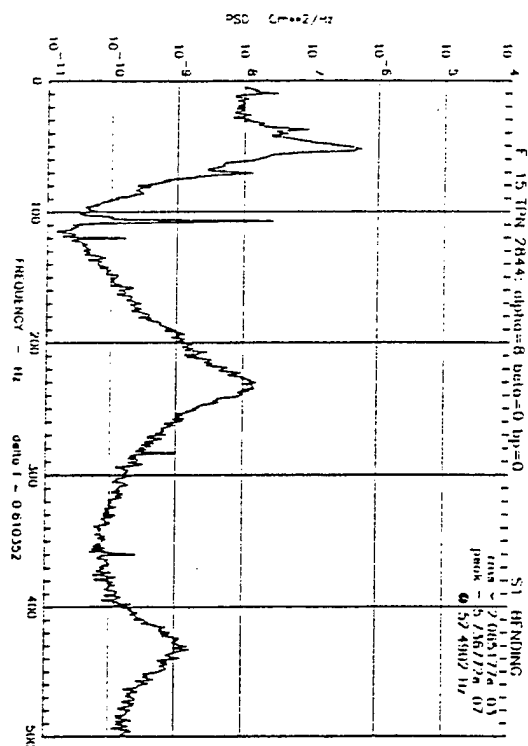
**FLEXIBLE TAIL RESPONSE
NON DIMENSIONAL BENDING AND TORSION
PSD GRAPHS**

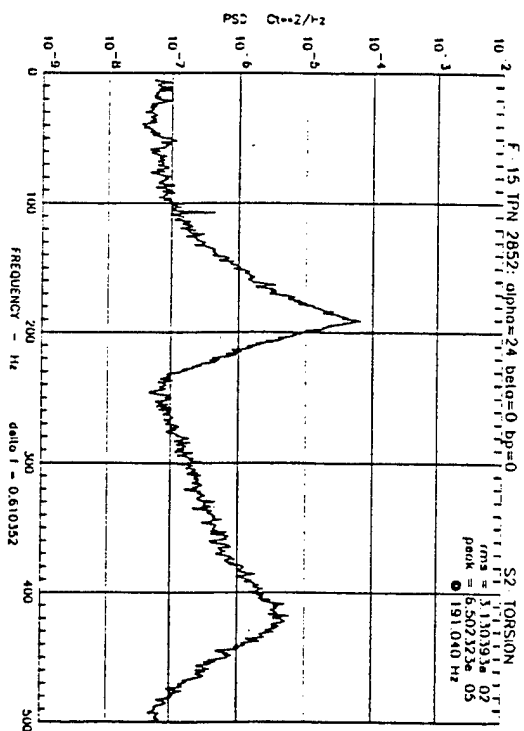
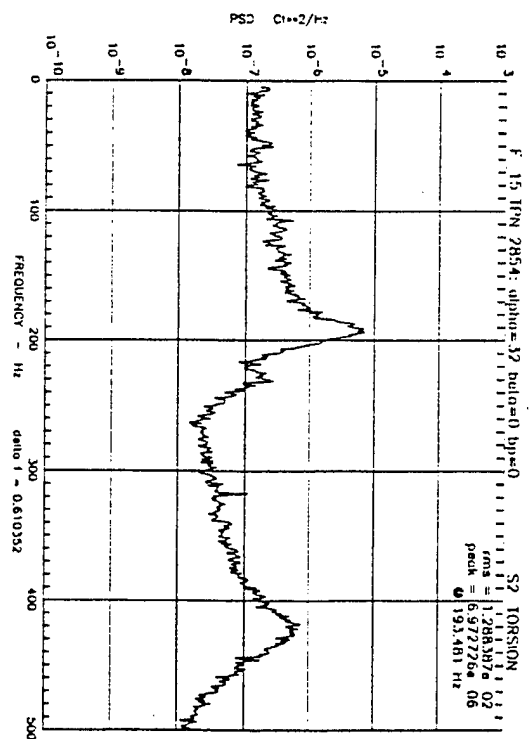
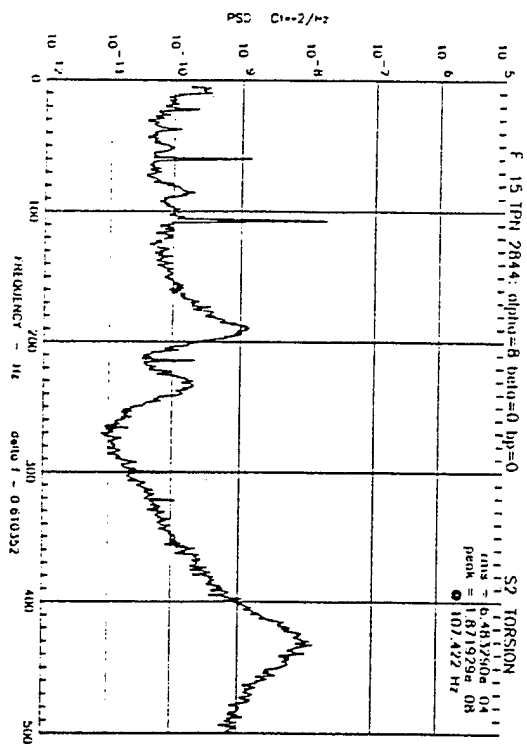
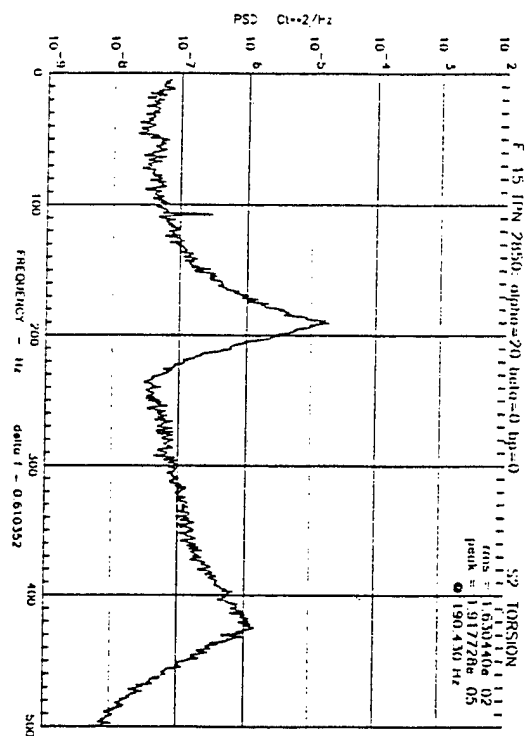
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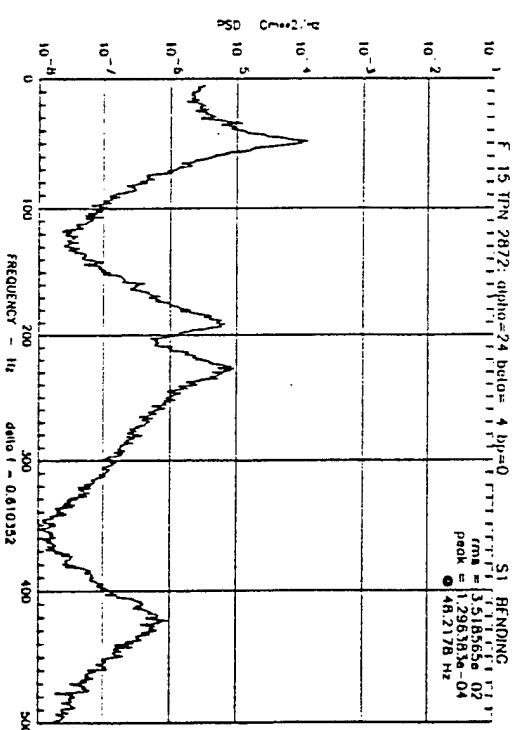
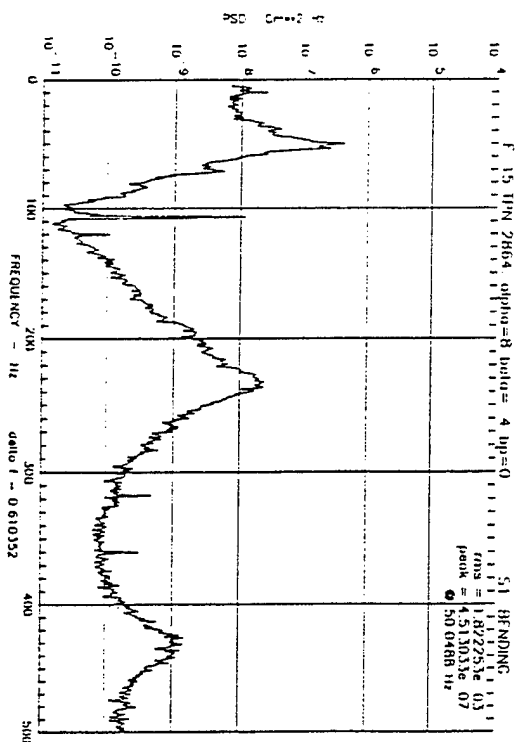
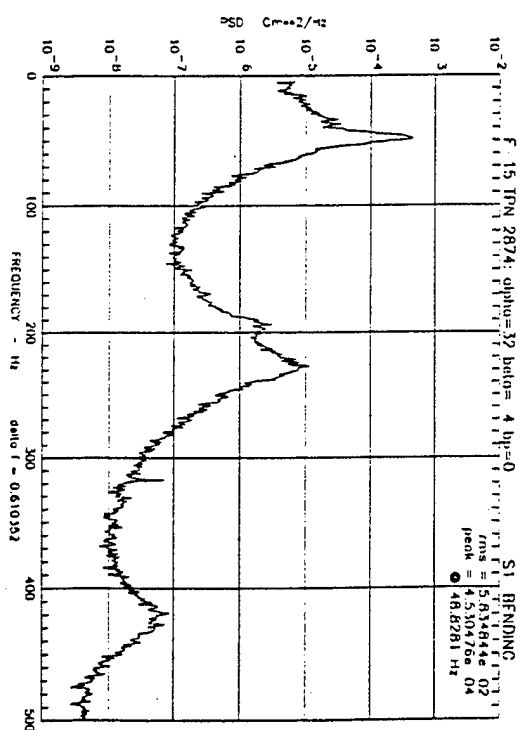
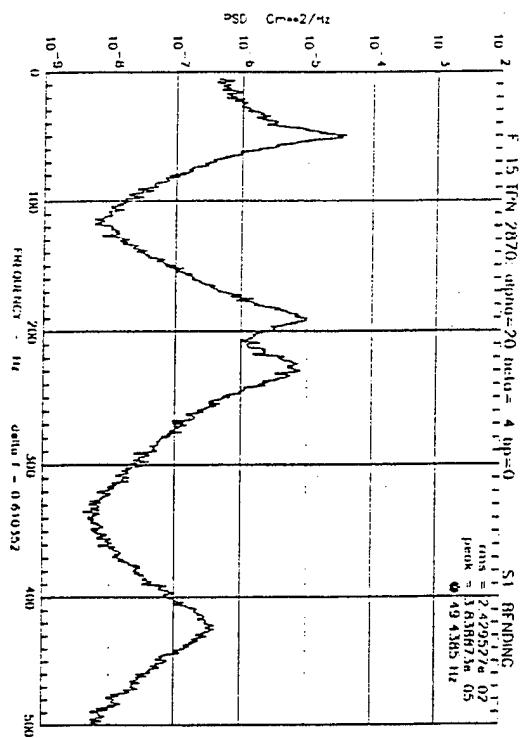
3.1.1.1 WBP =0, 45, 65 PSI, BETA = 0, +4, -4 DEG, ALPHA= 8....32 DEG

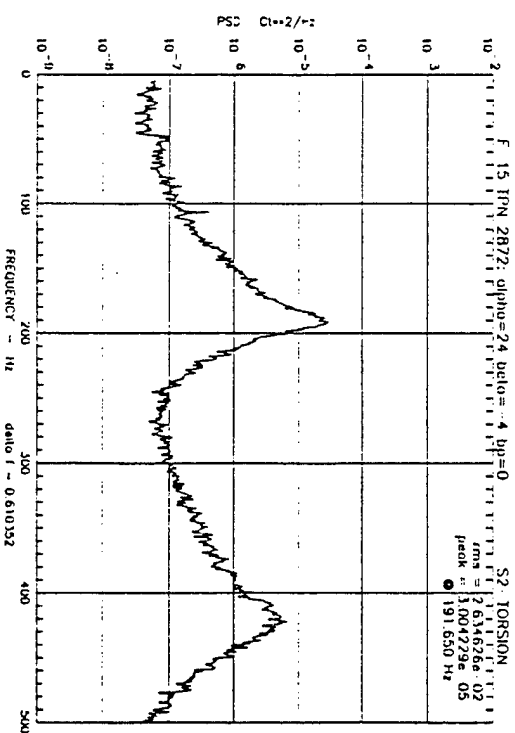
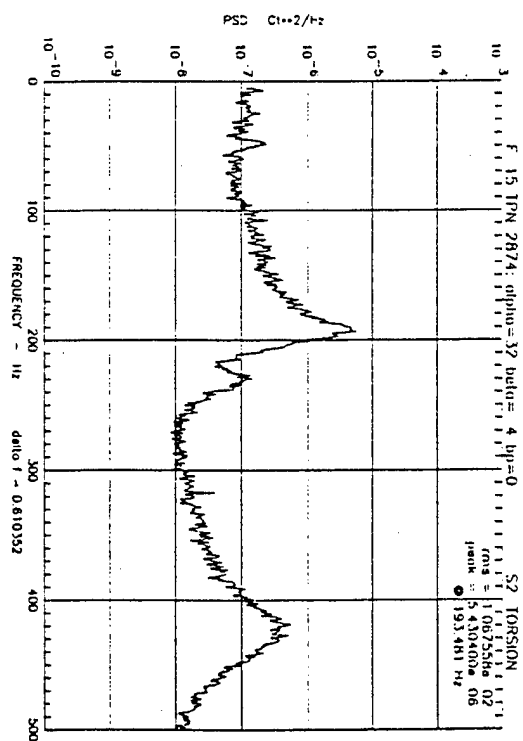
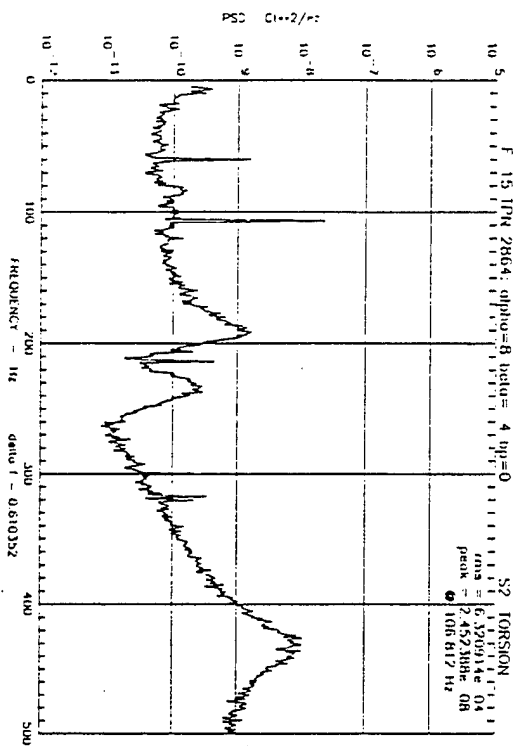
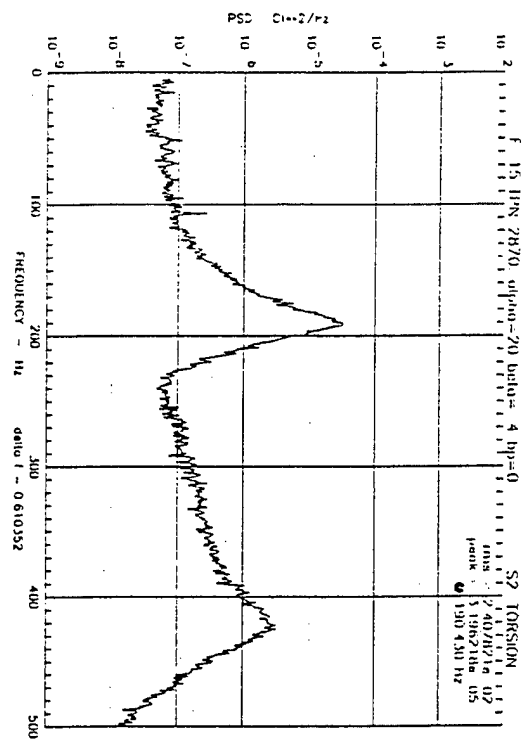


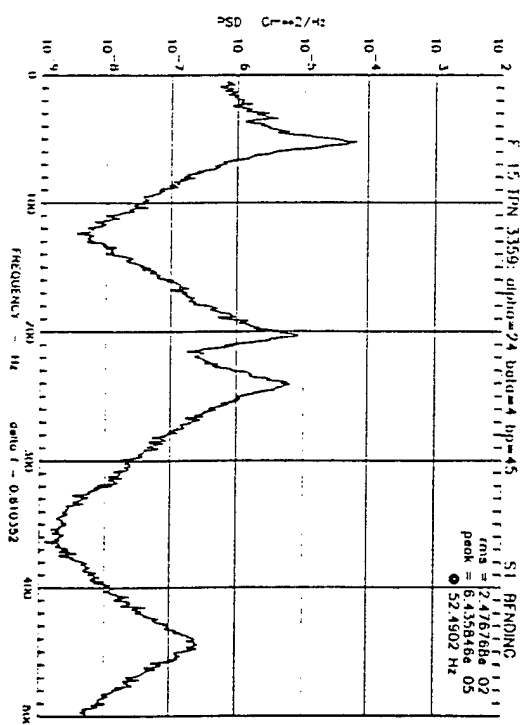
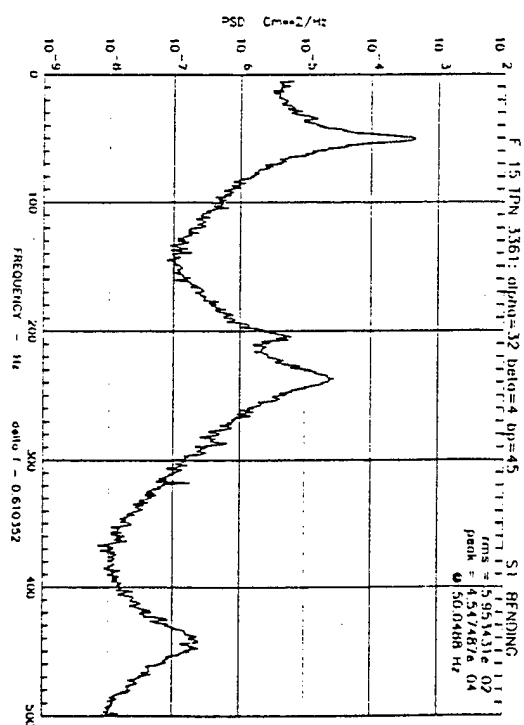
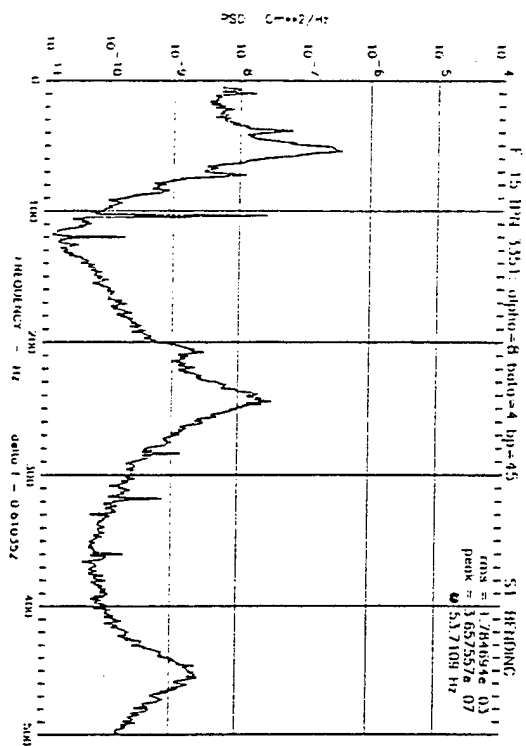
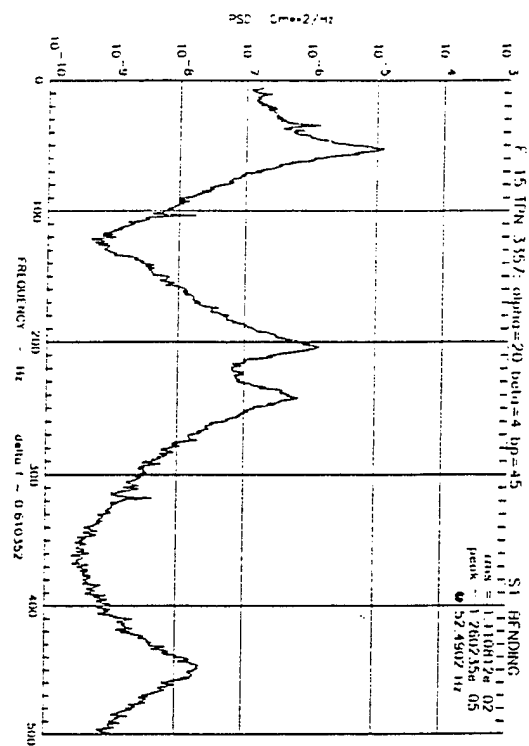


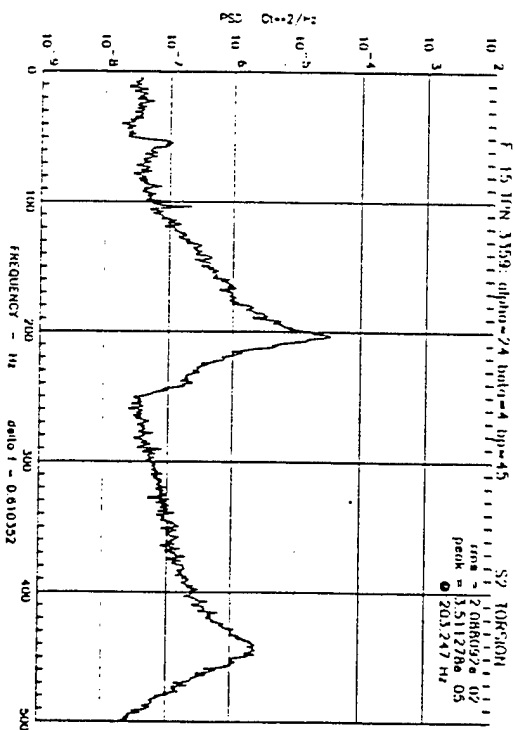
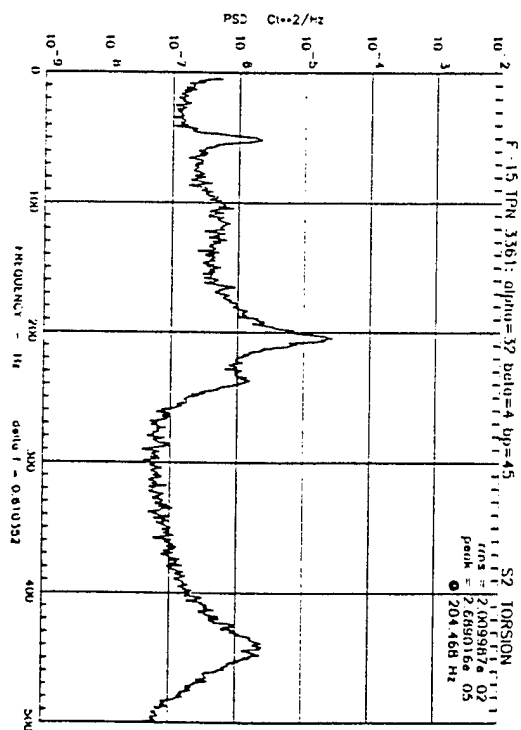
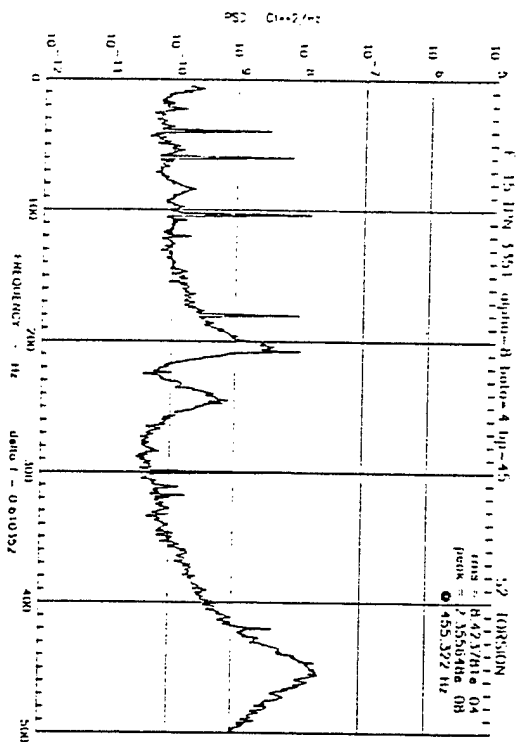
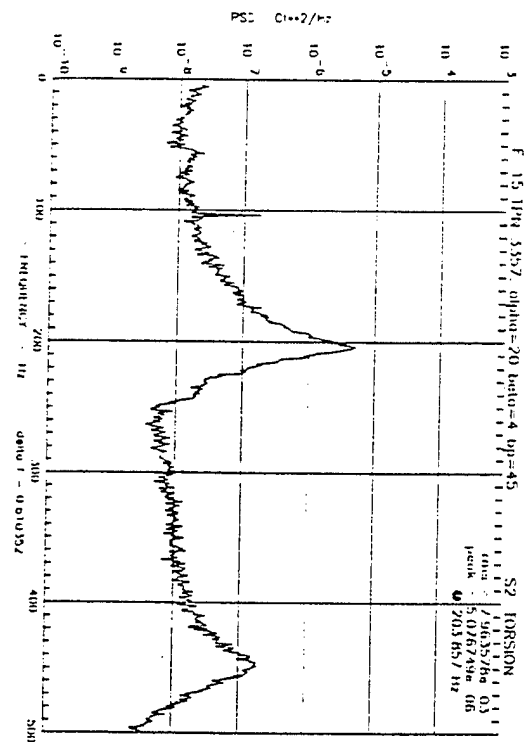


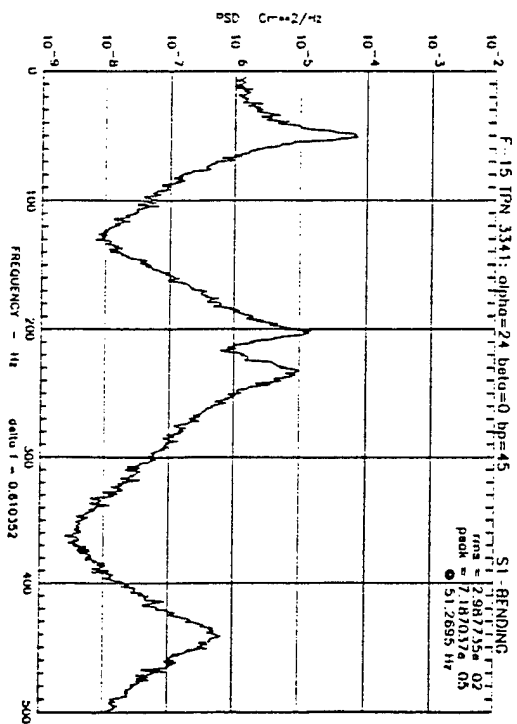
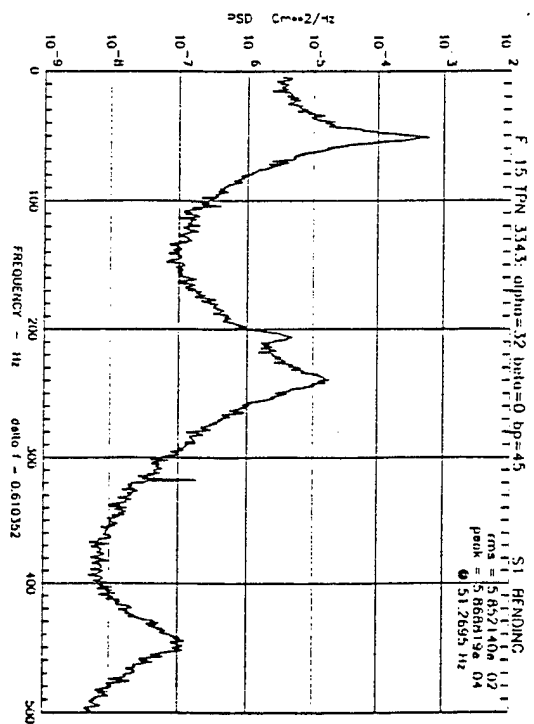
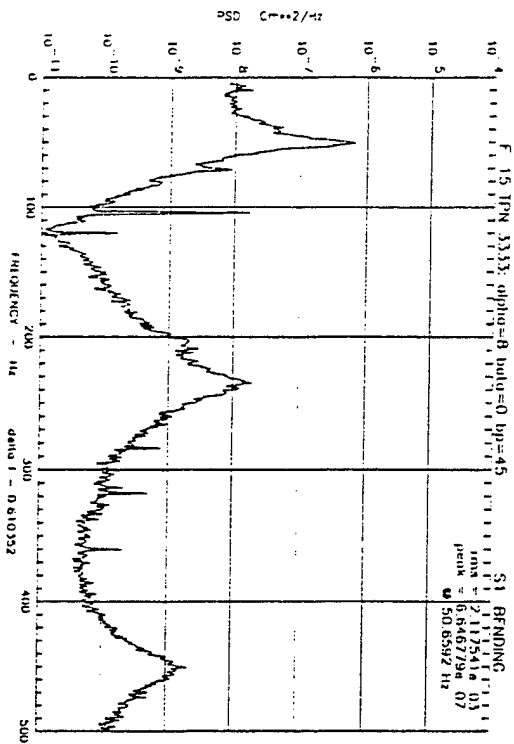
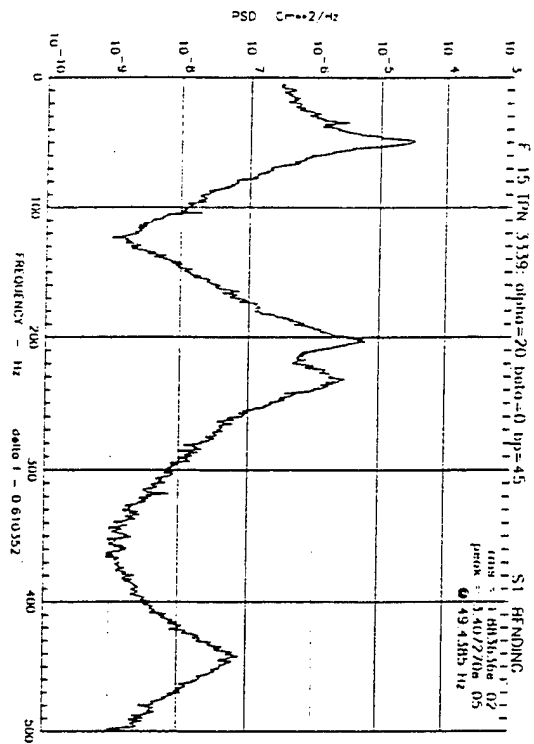


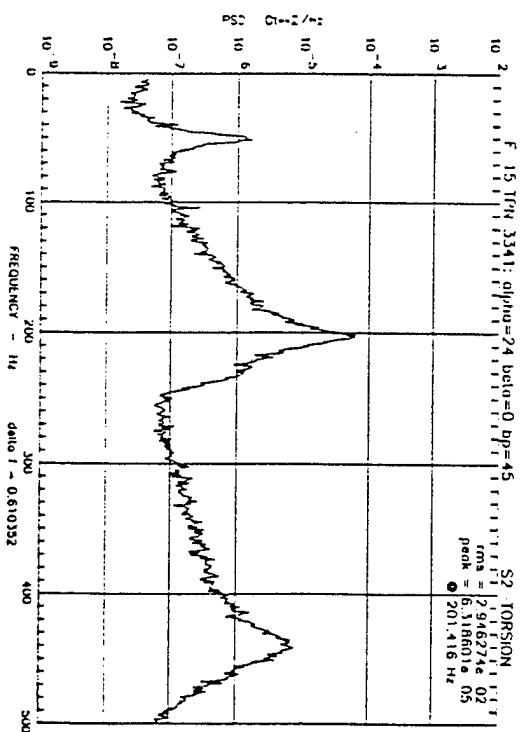
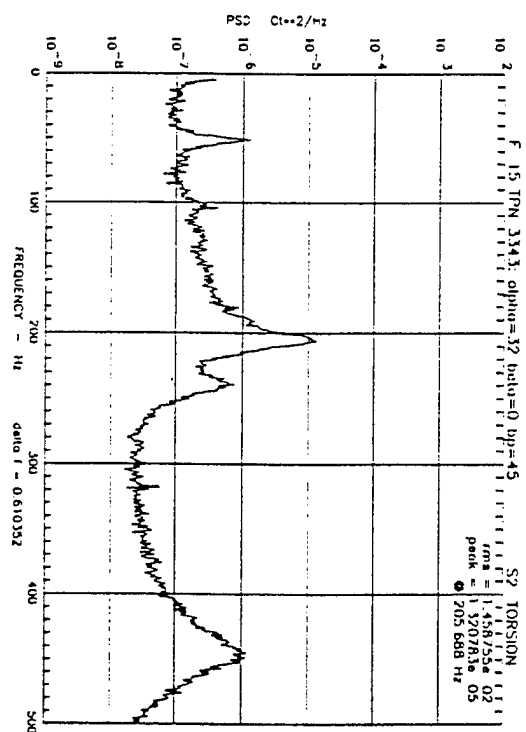
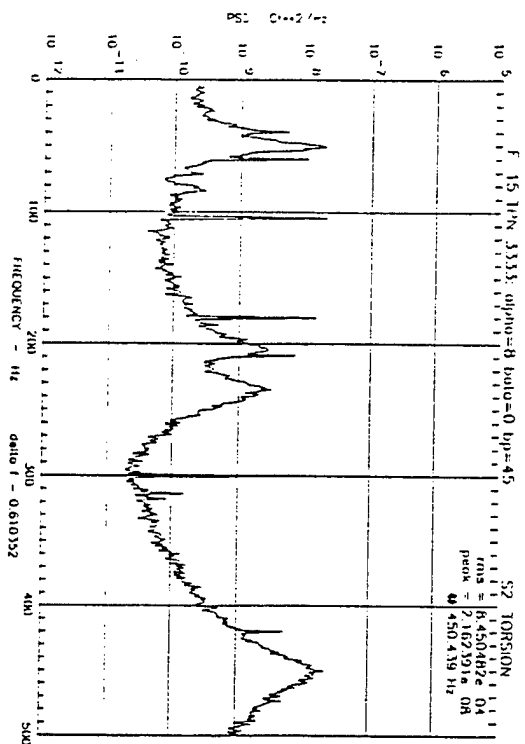
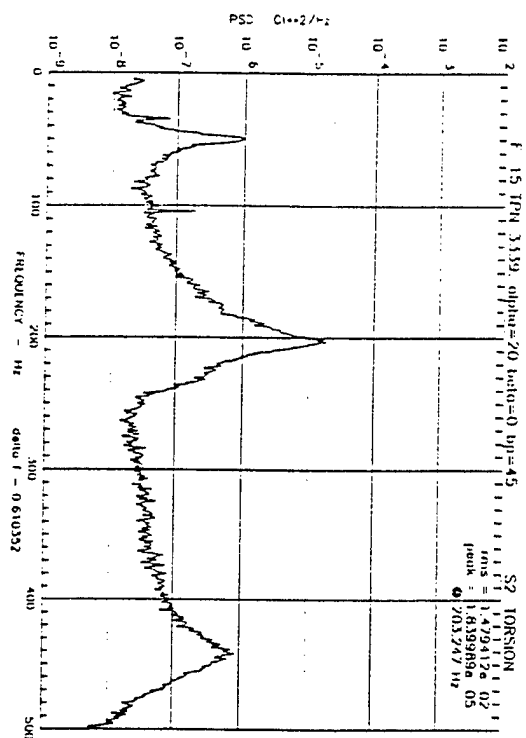


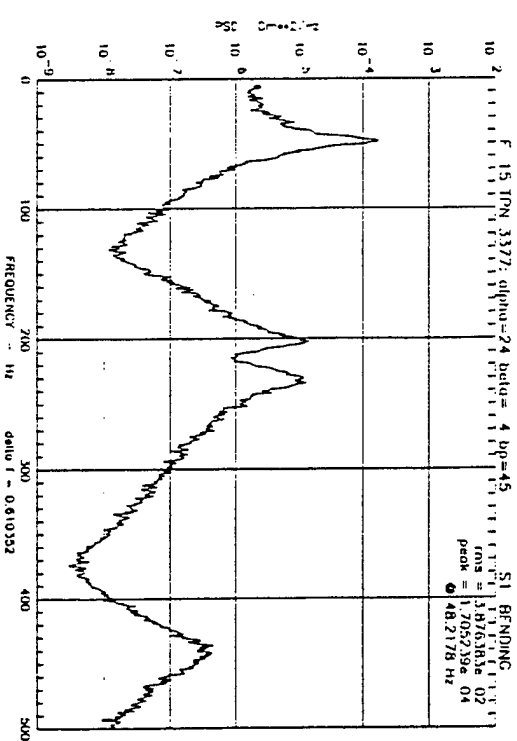
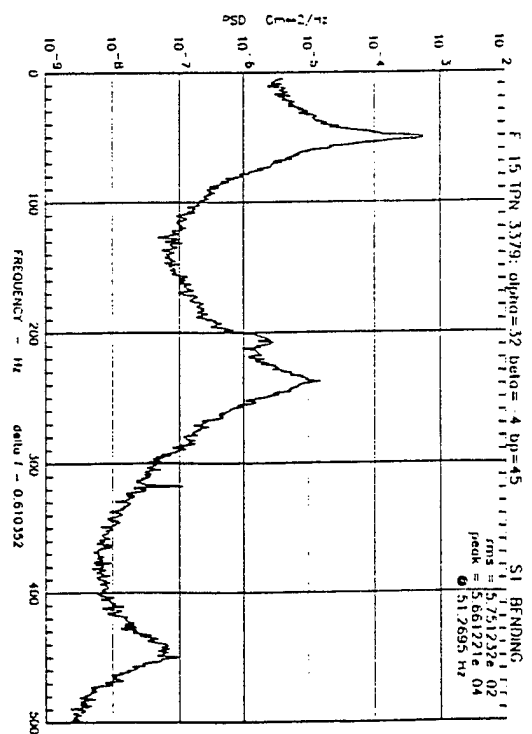
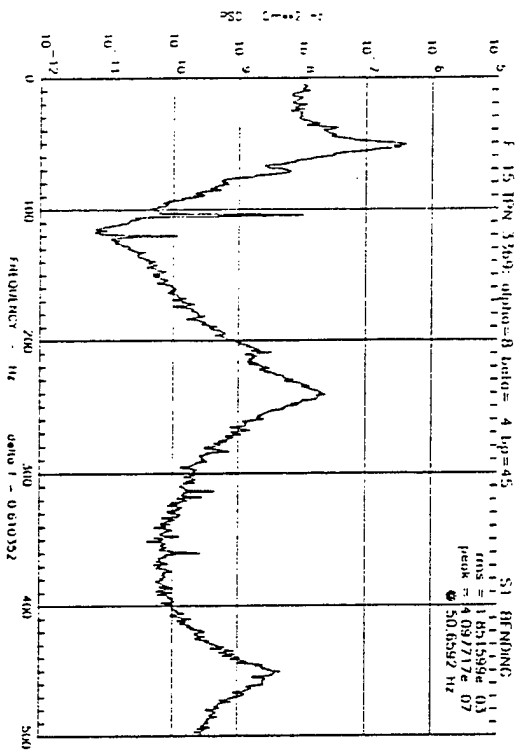
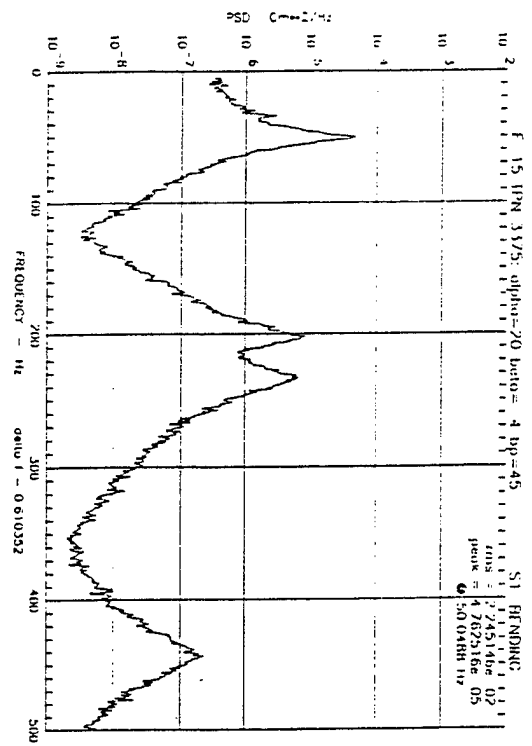


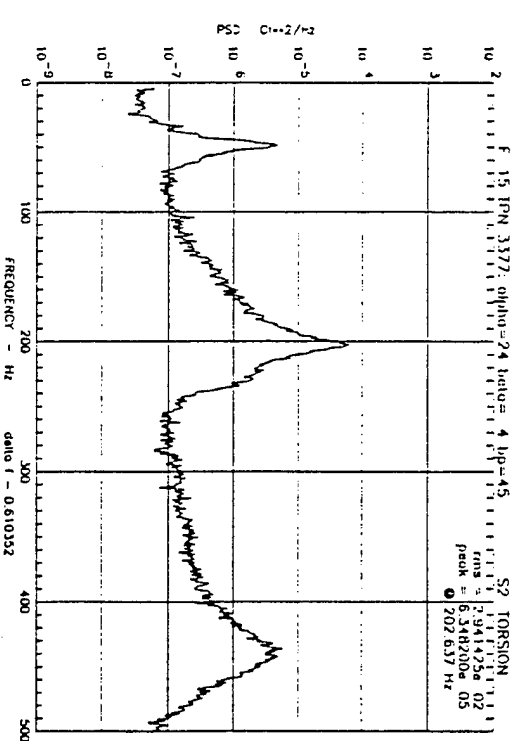
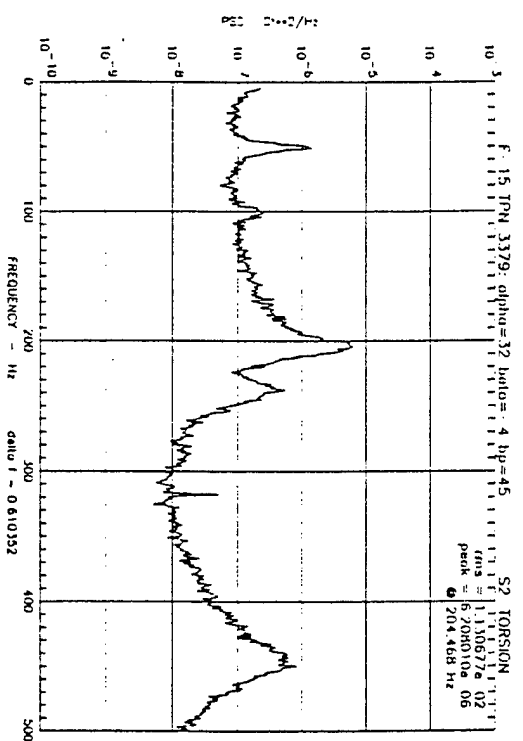
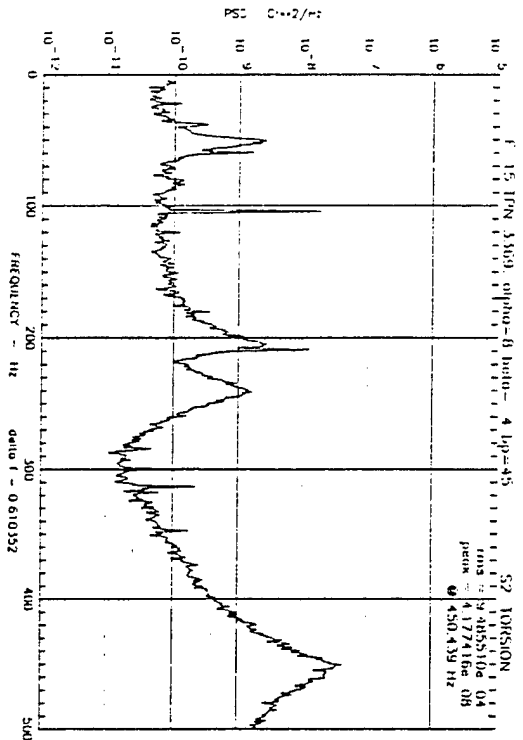
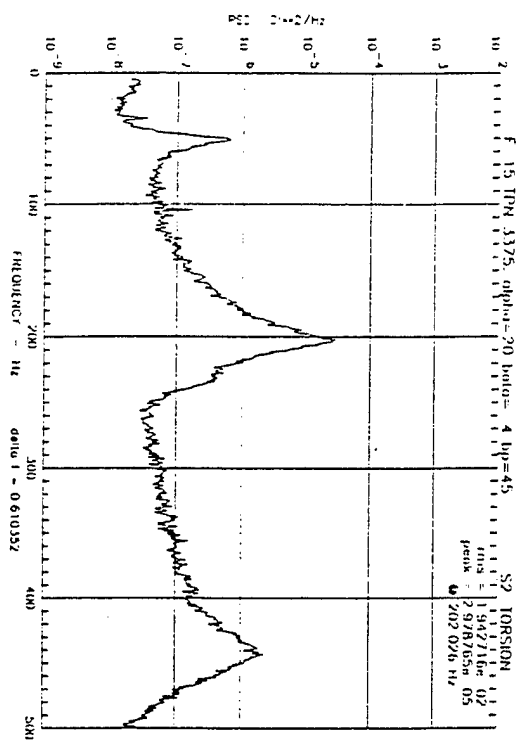


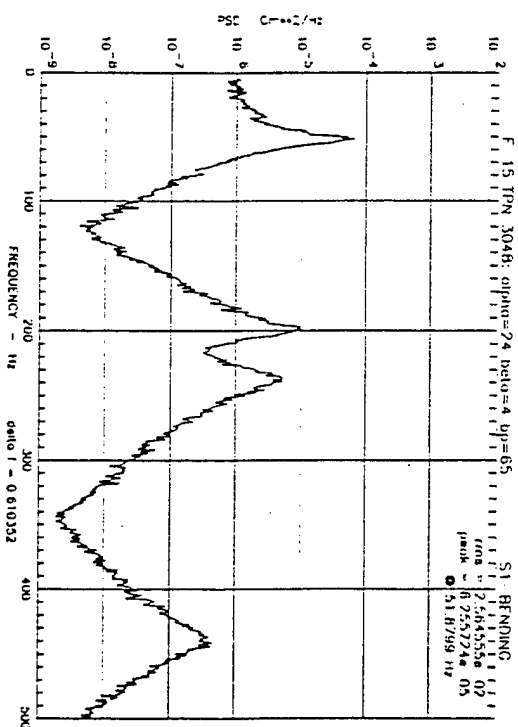
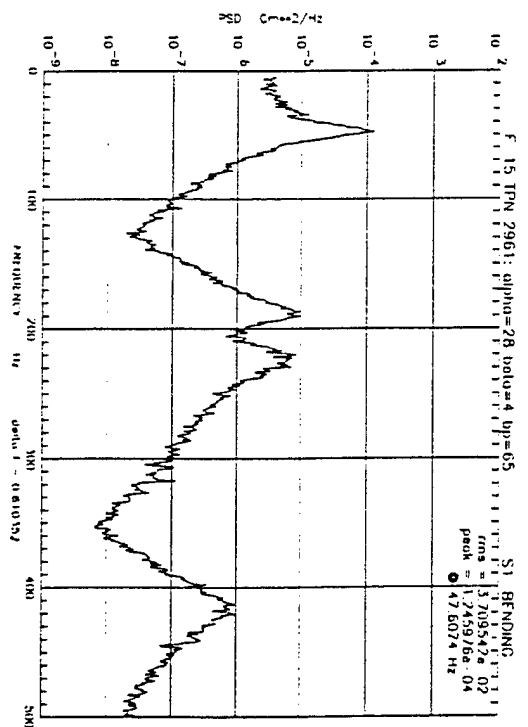
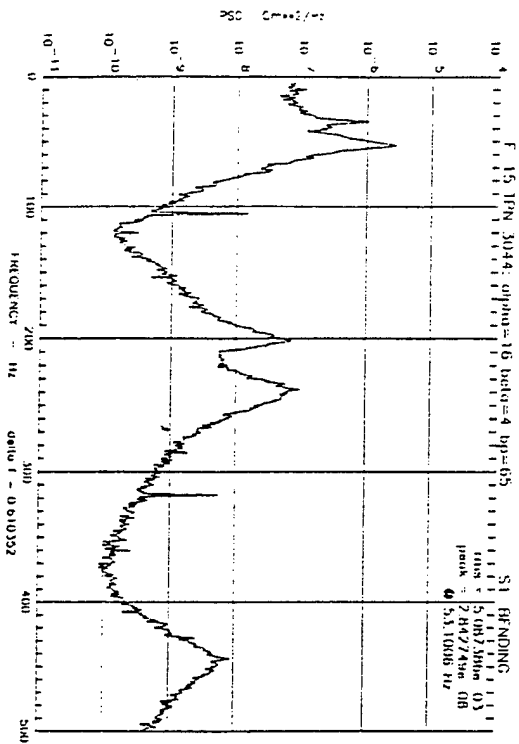
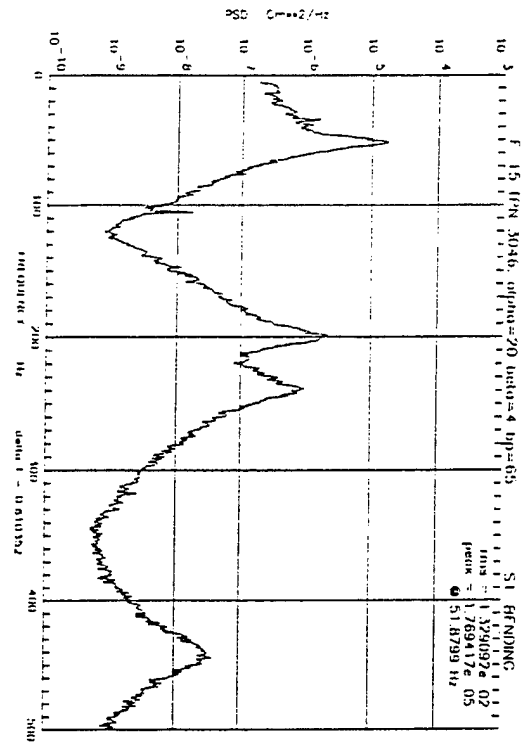


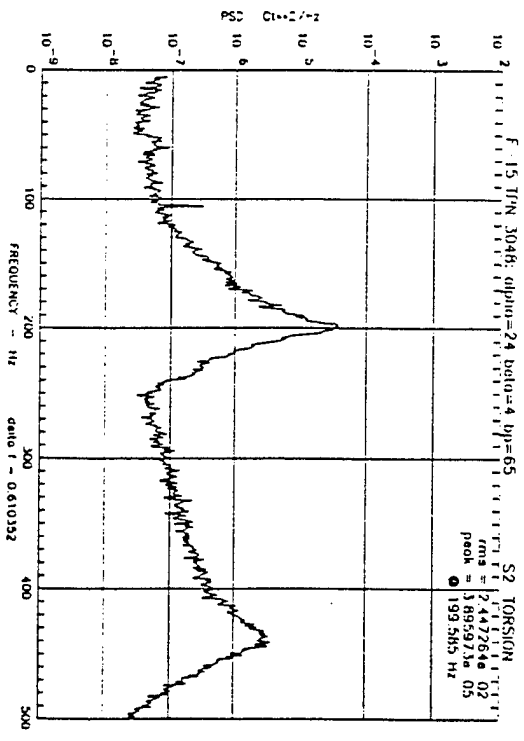
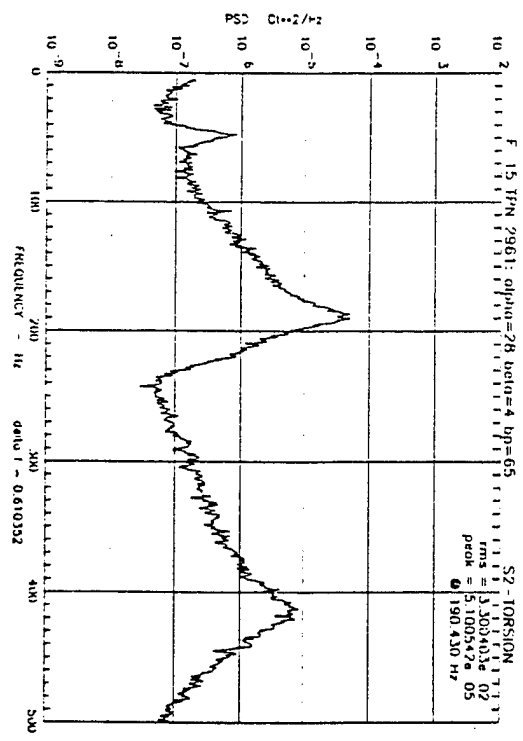
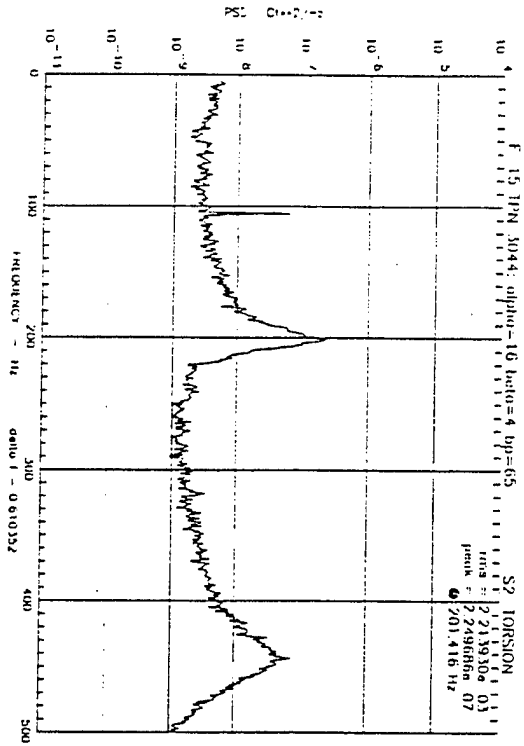
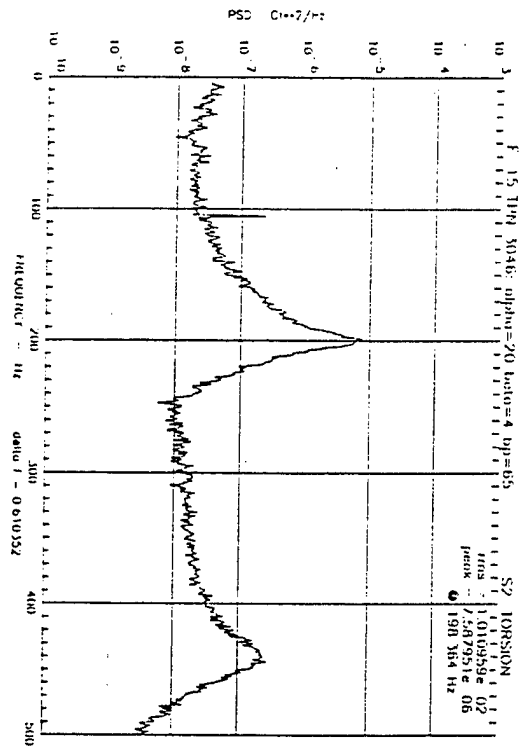


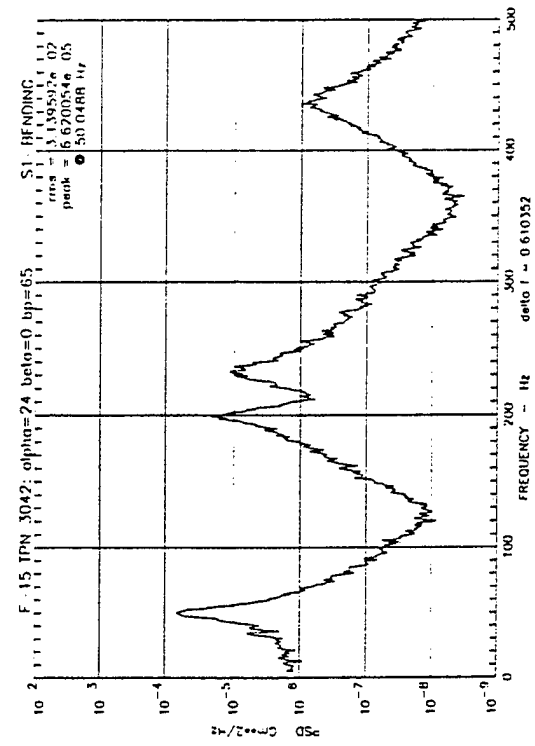
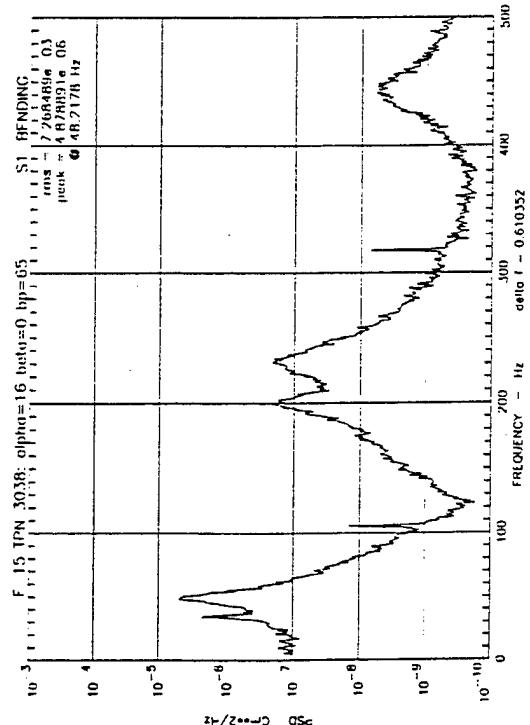
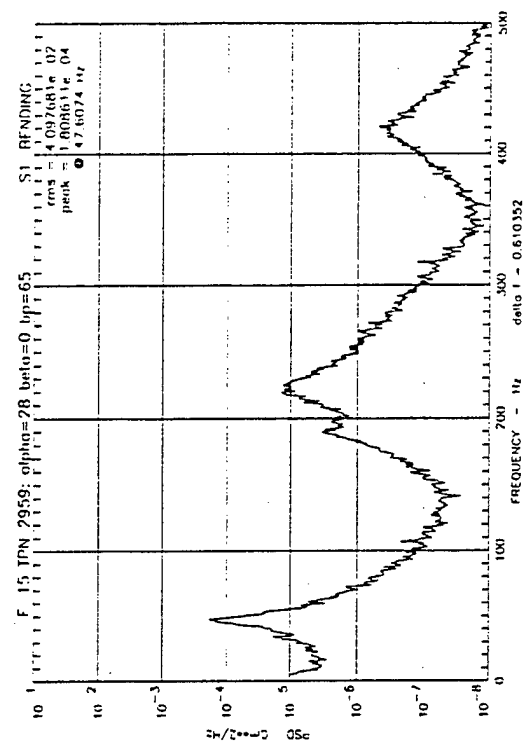
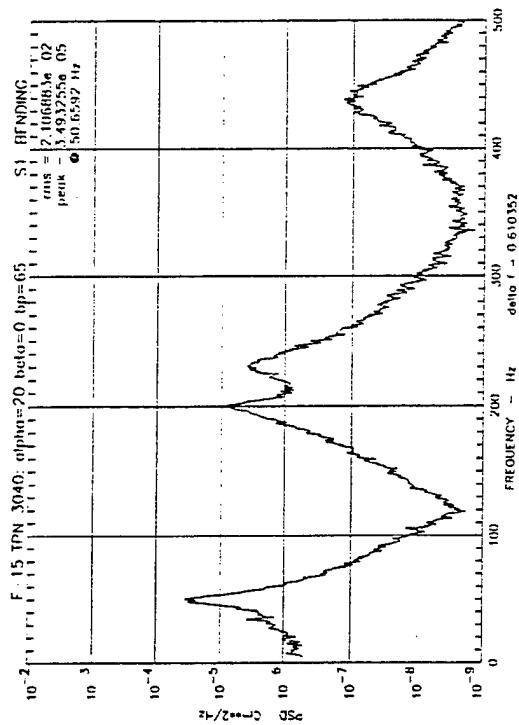


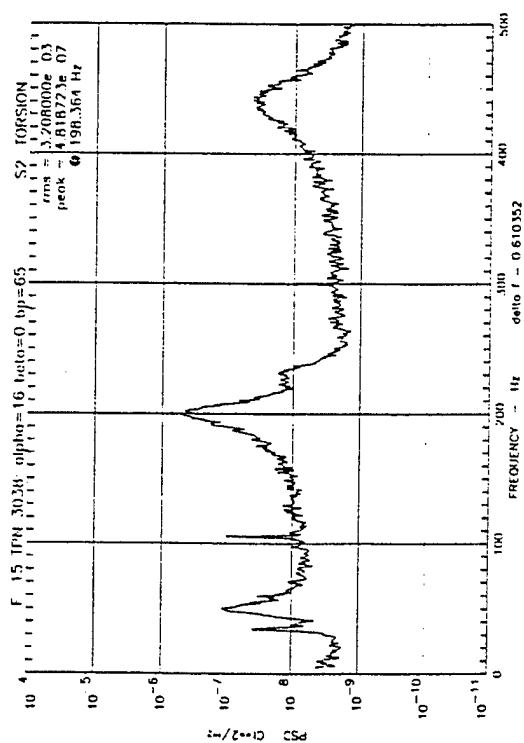
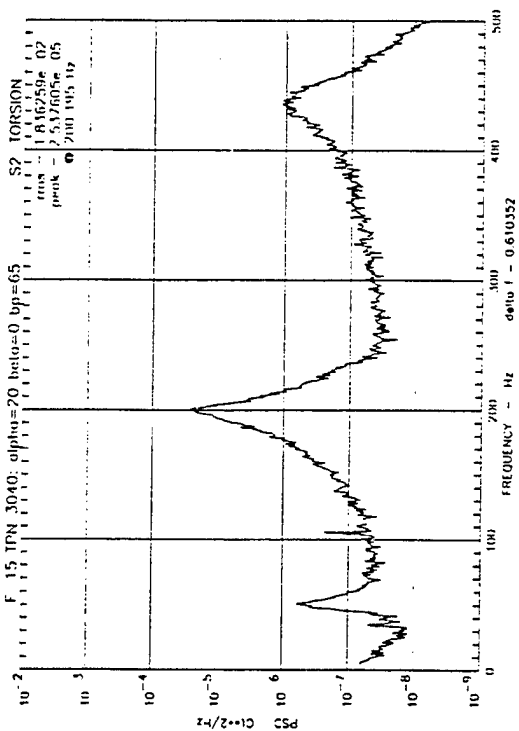
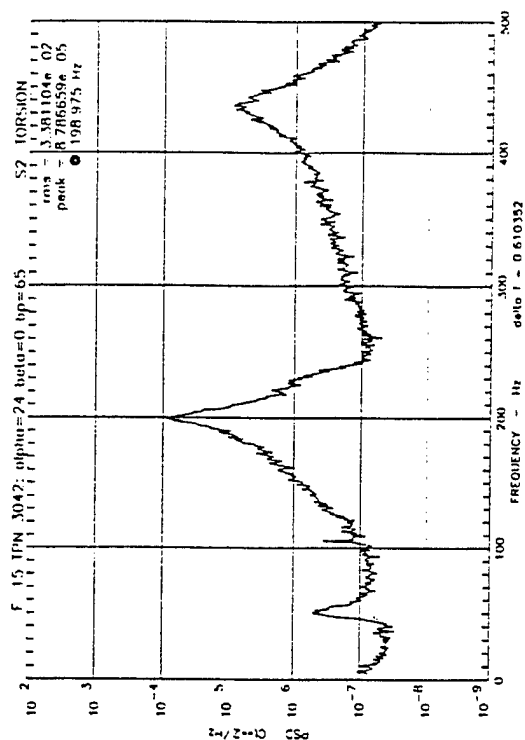
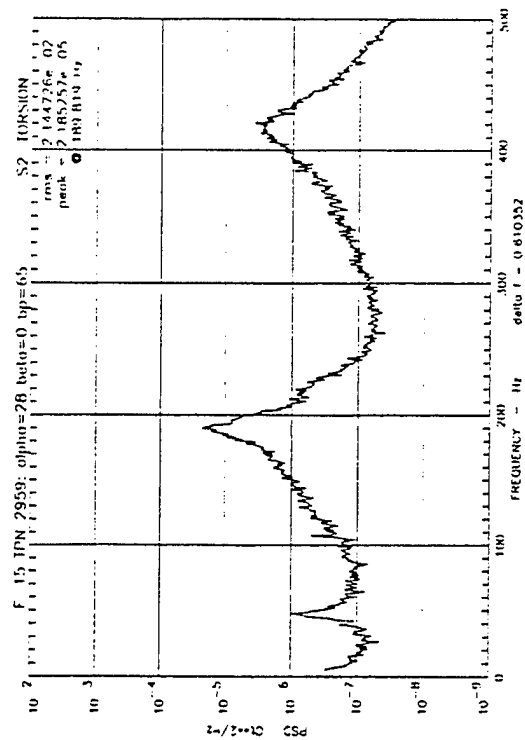


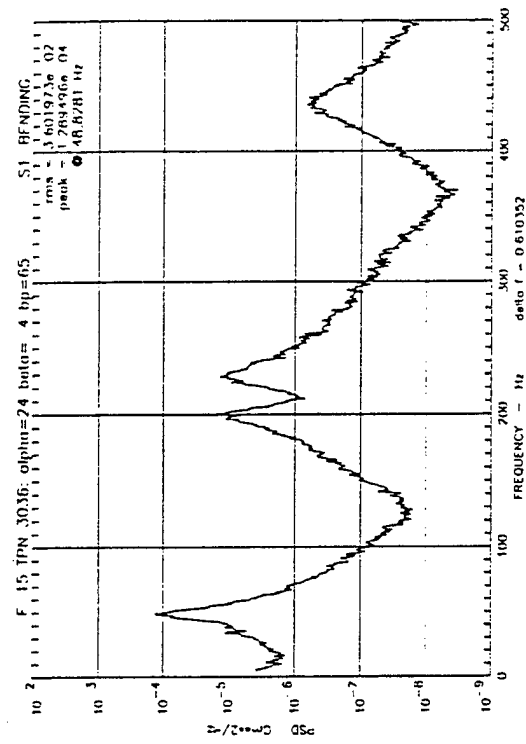
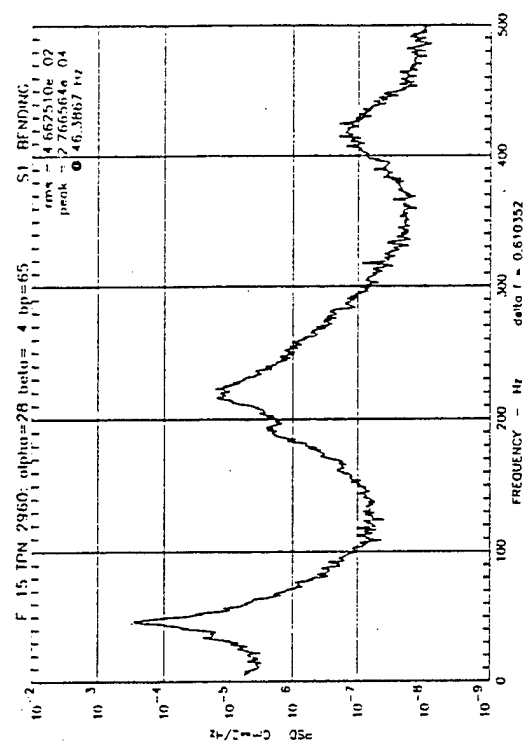
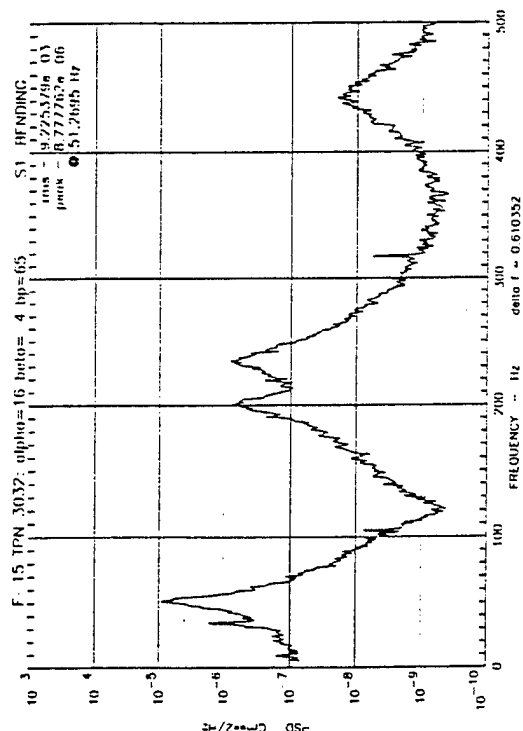
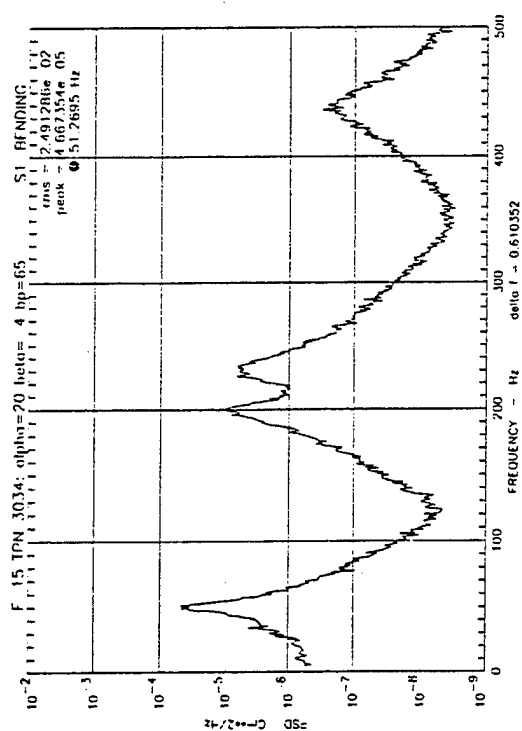


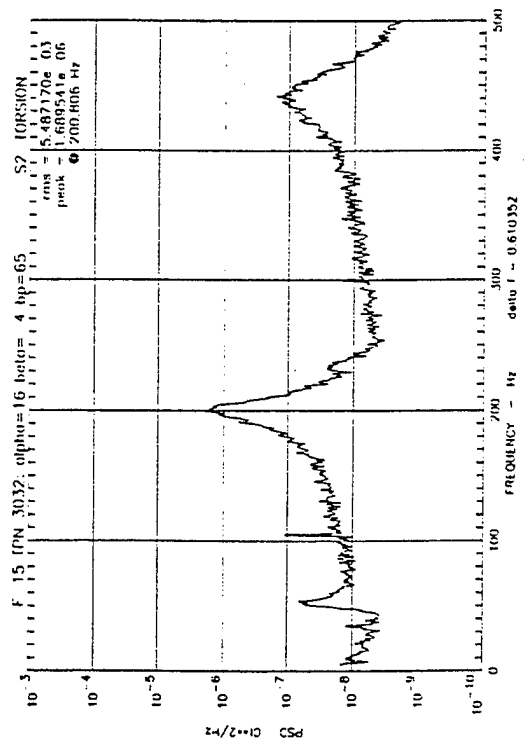
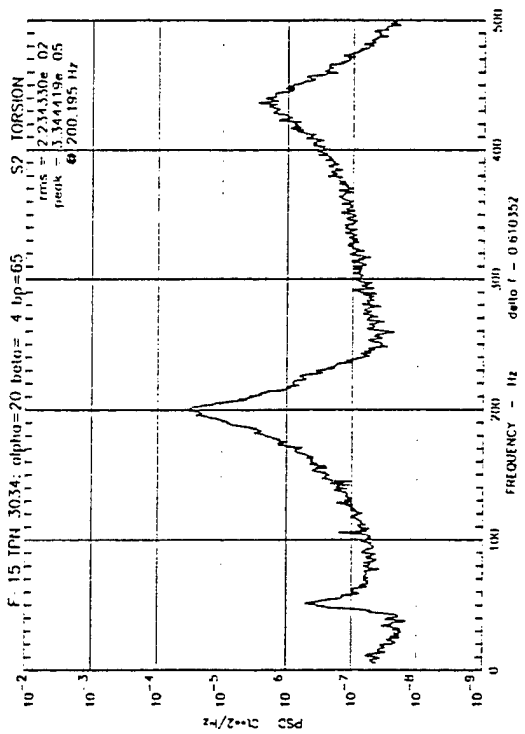
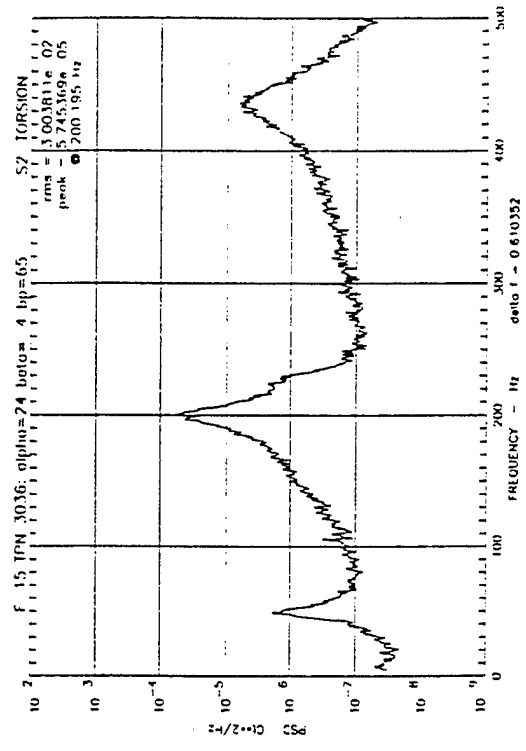
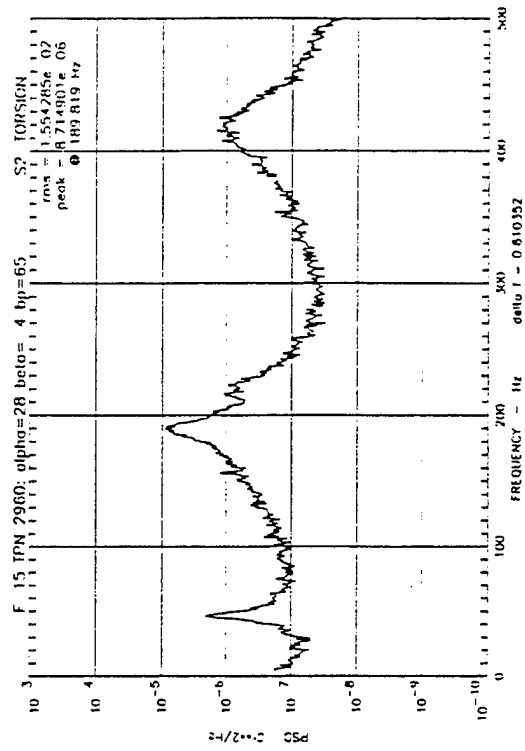


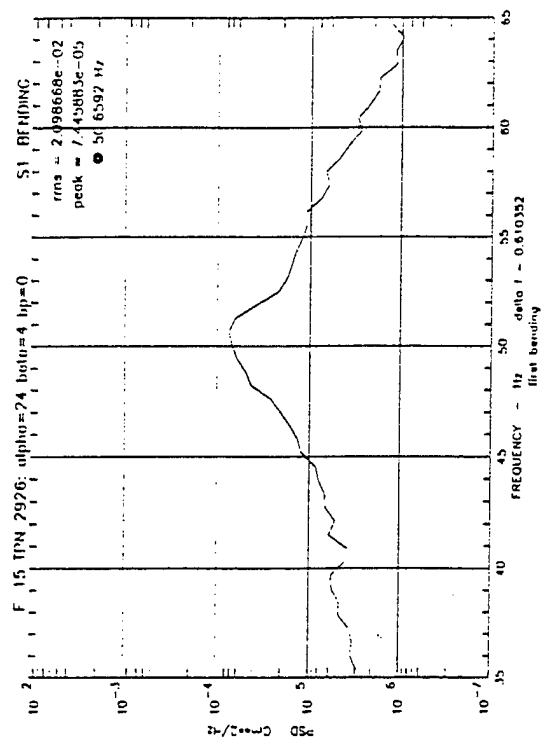
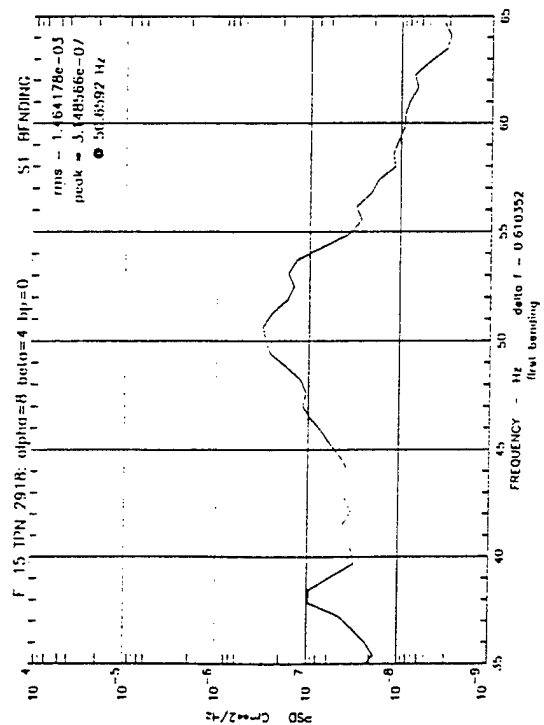
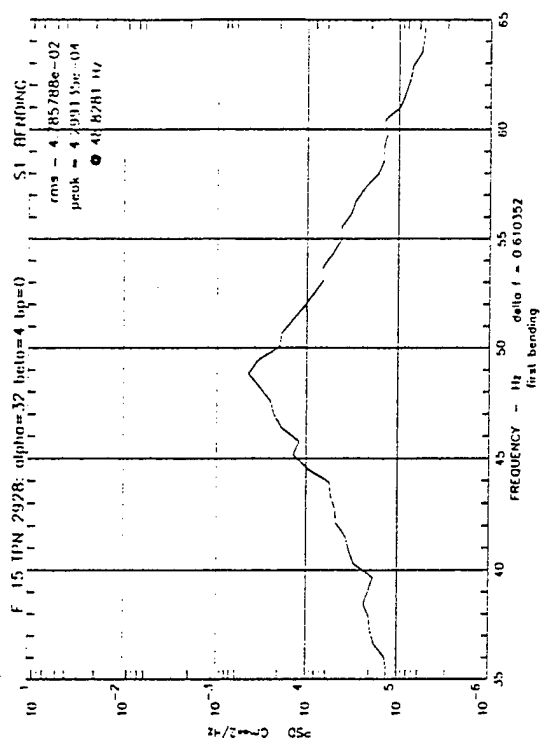
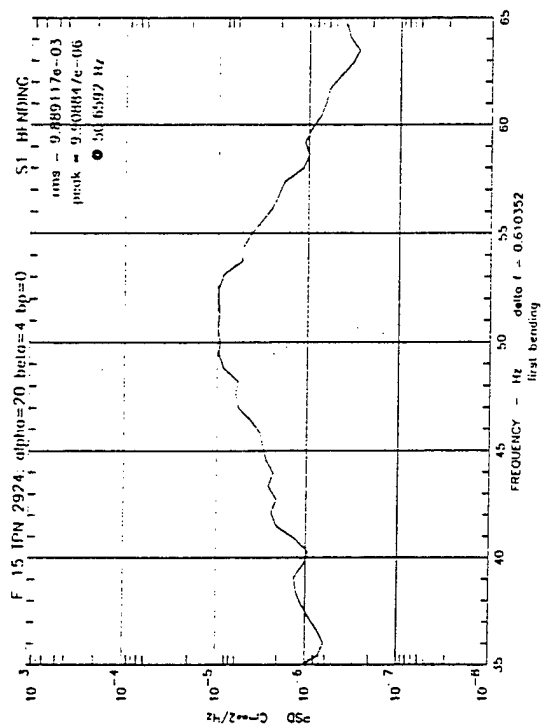


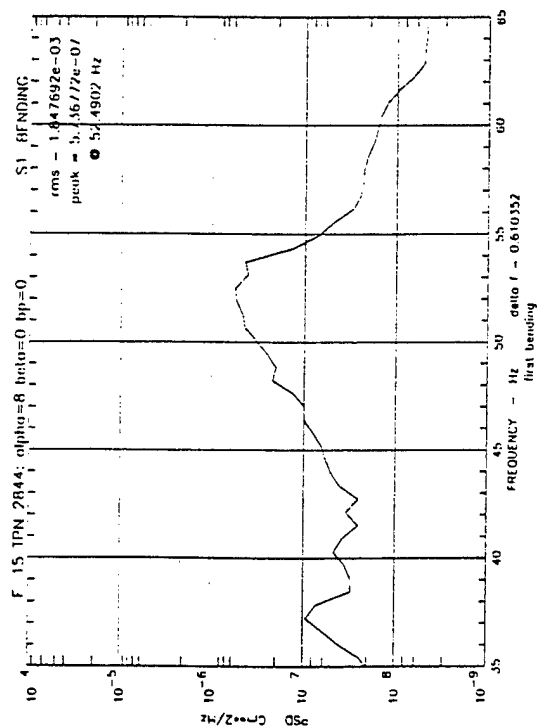
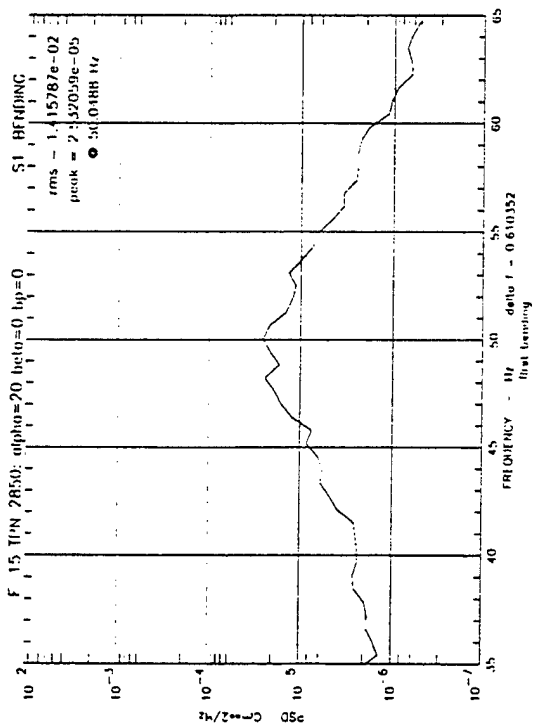
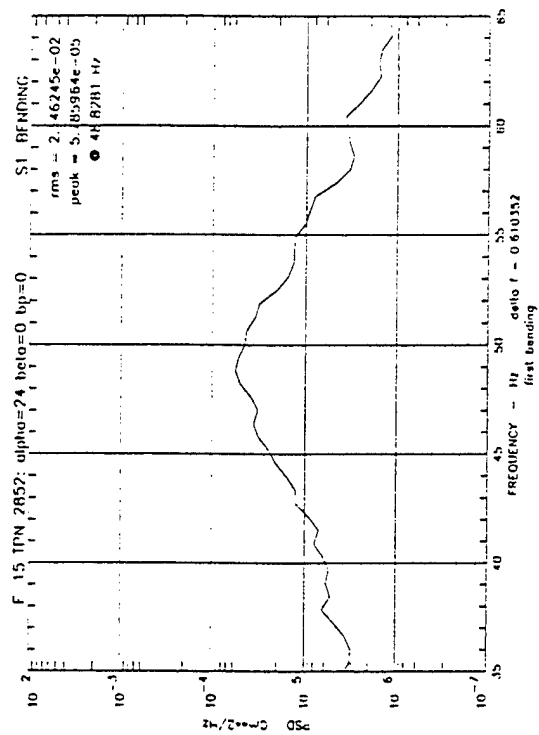
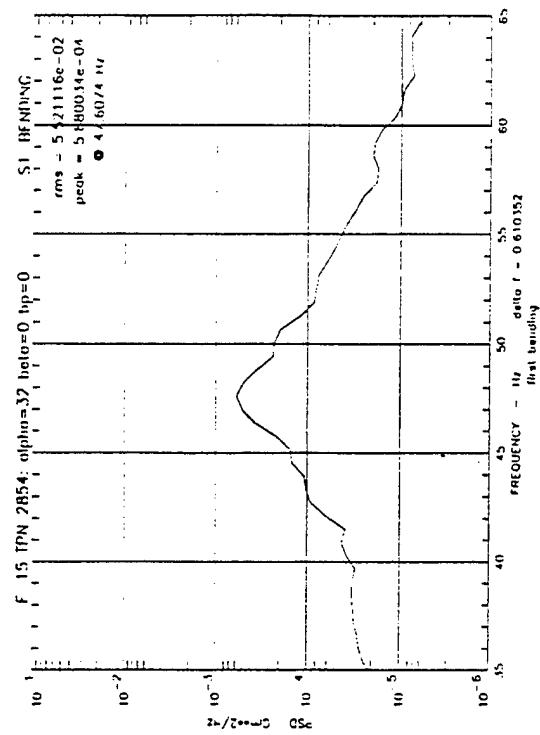


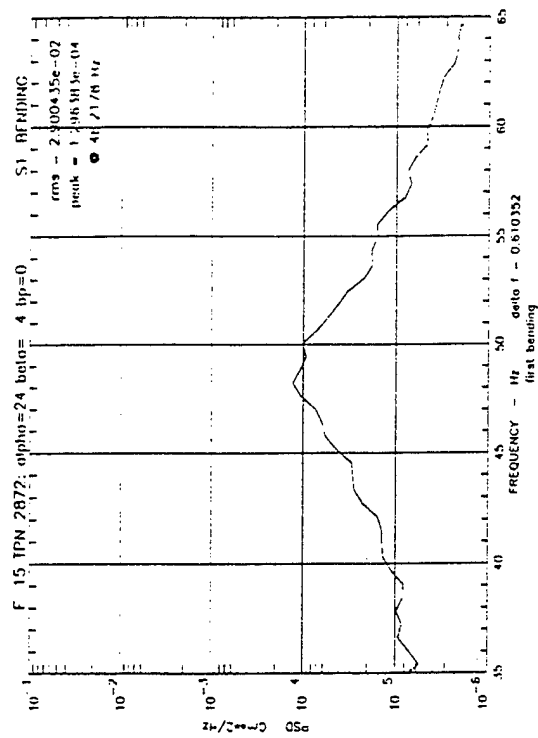
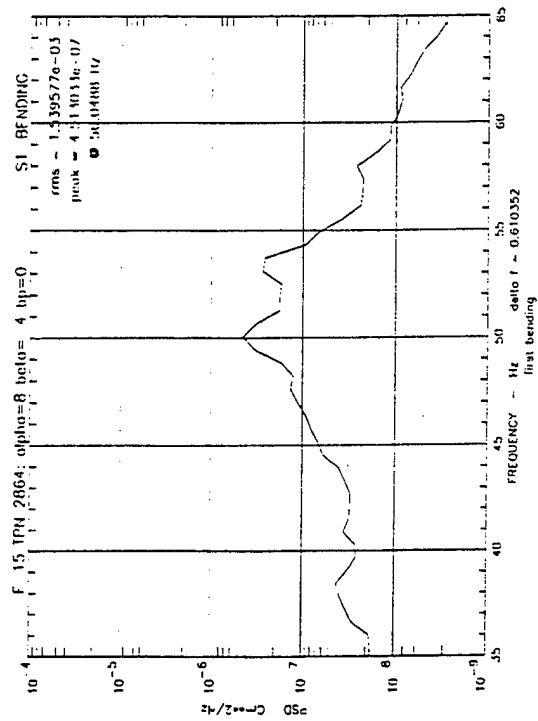
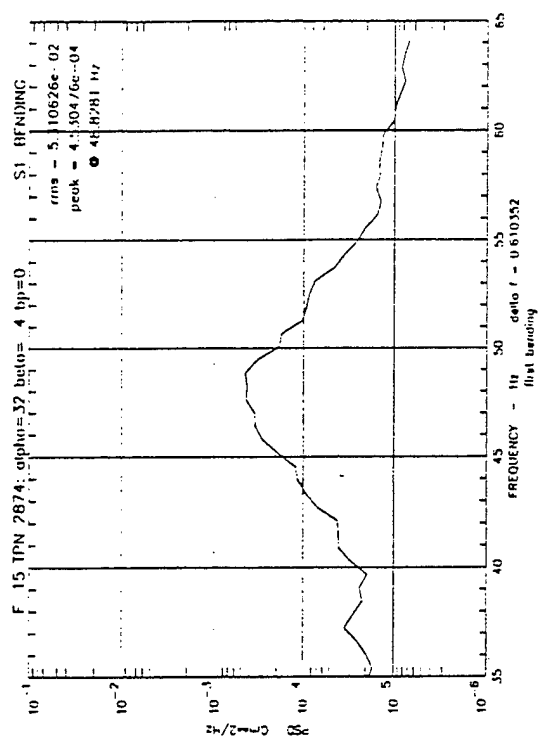
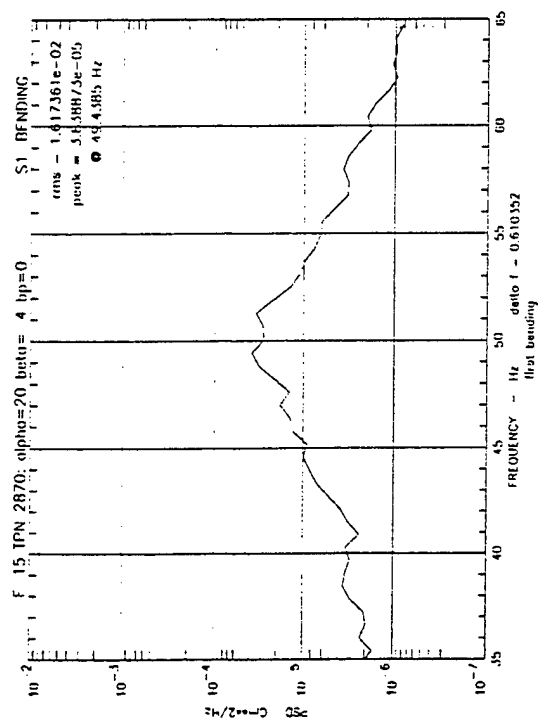


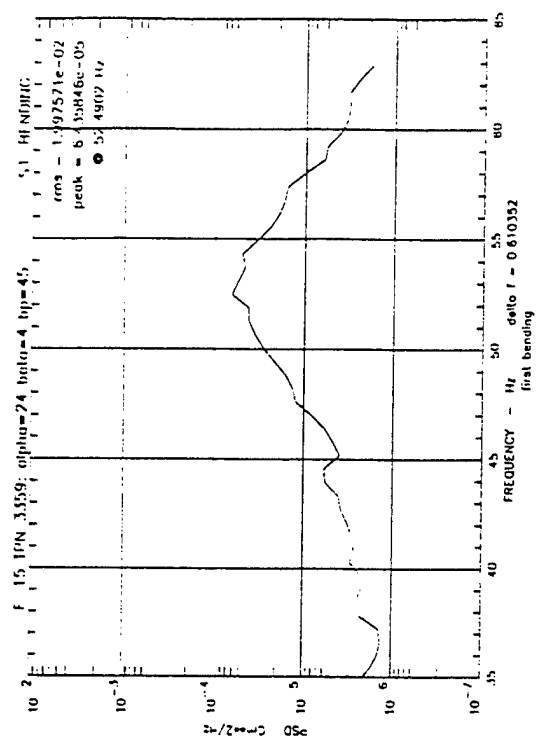
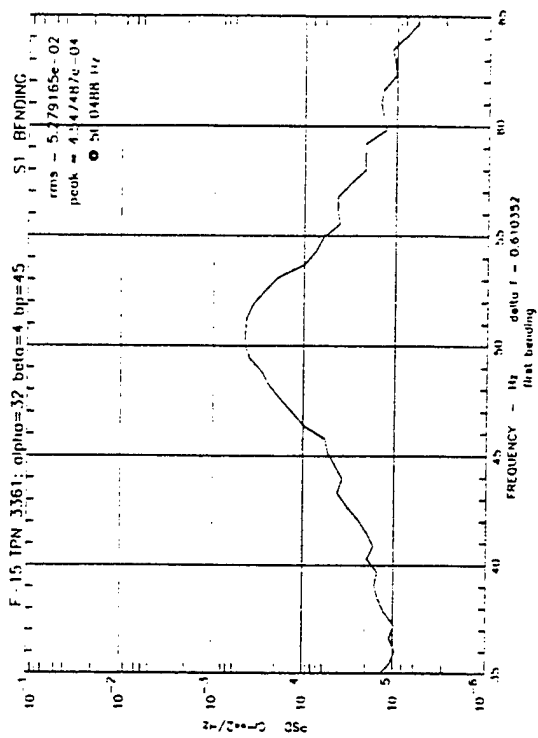
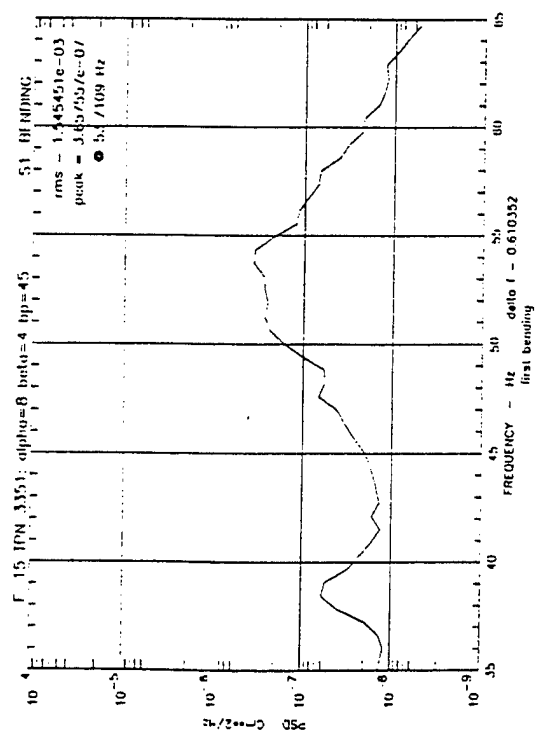
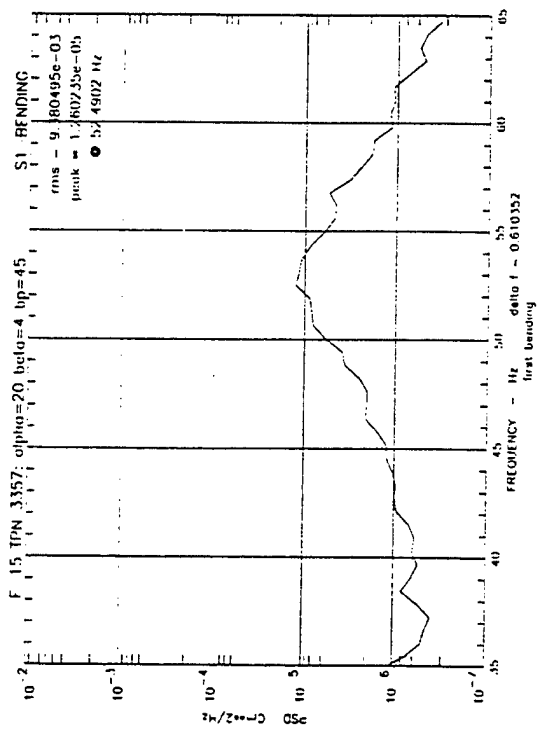


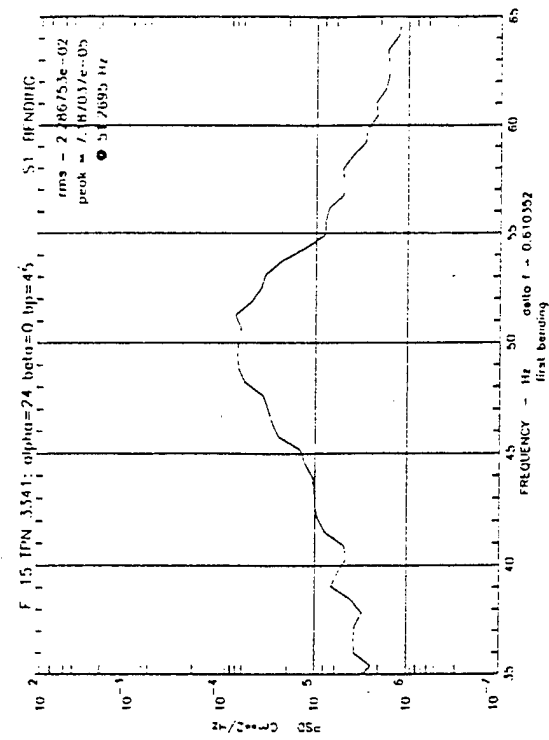
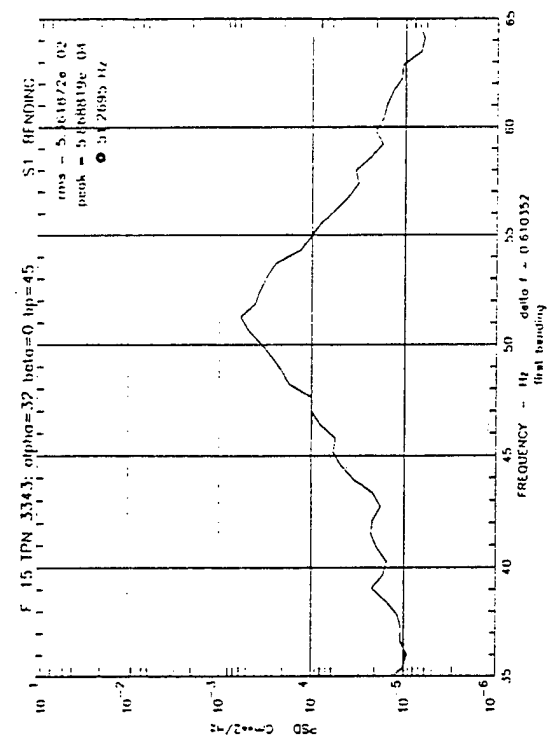
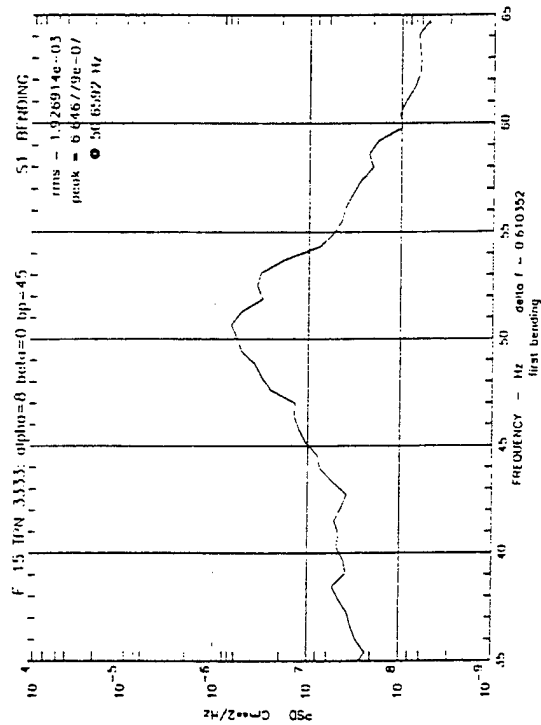
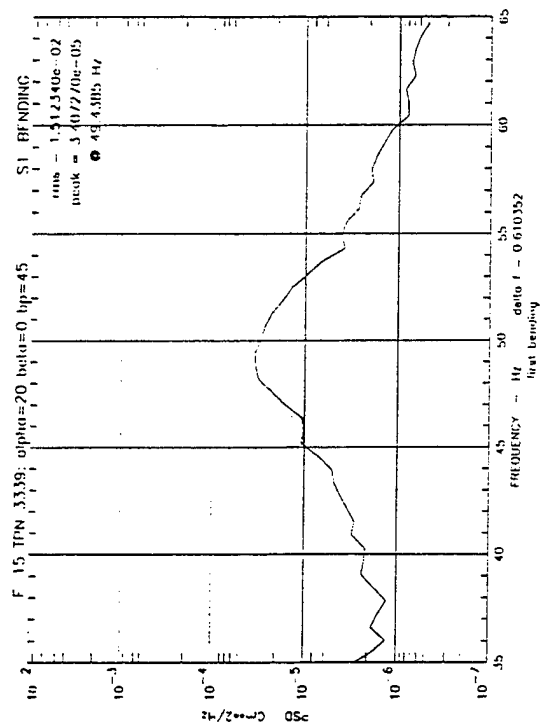


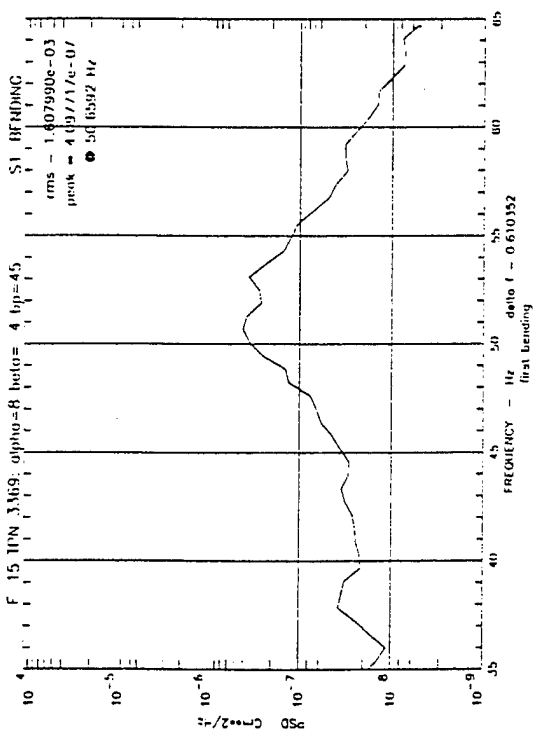
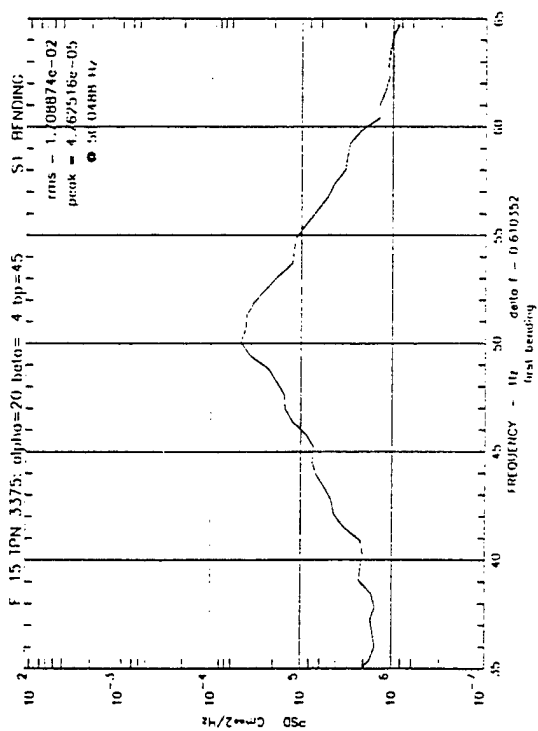
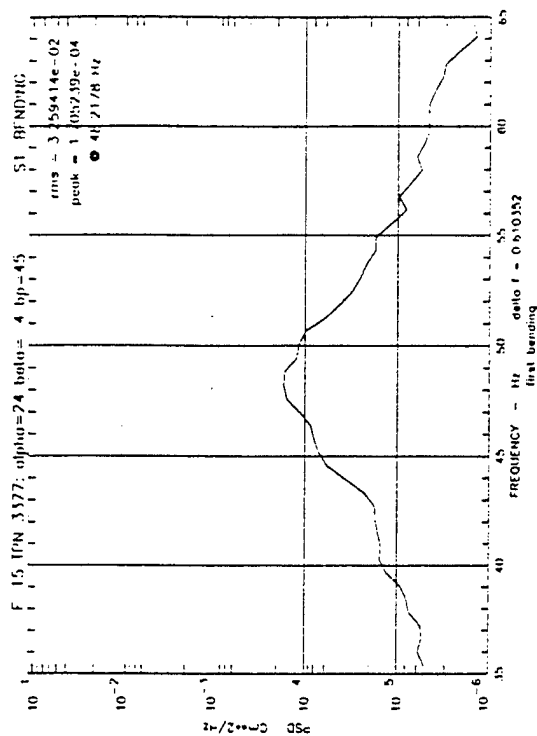
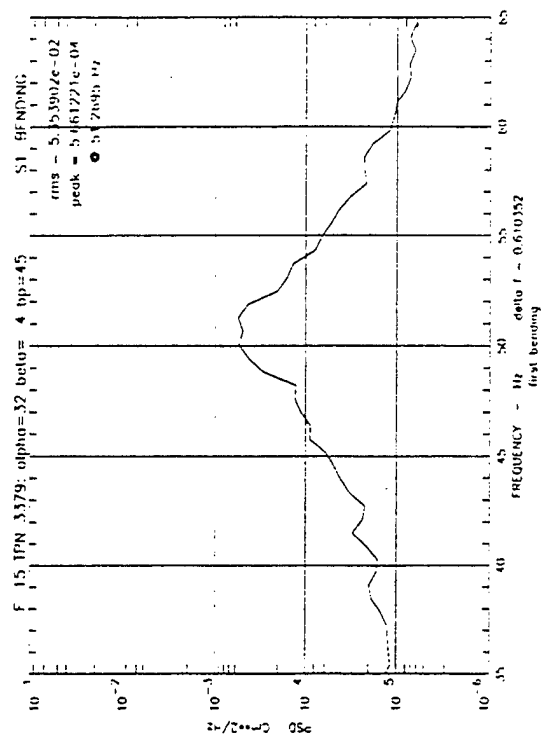


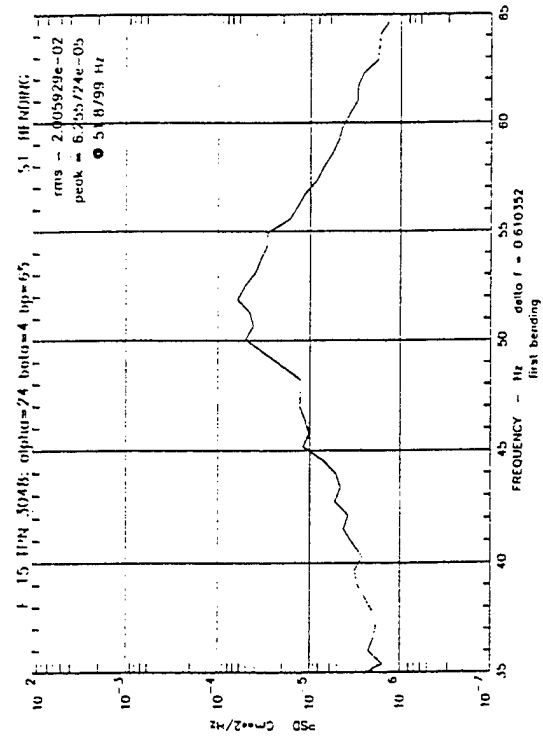
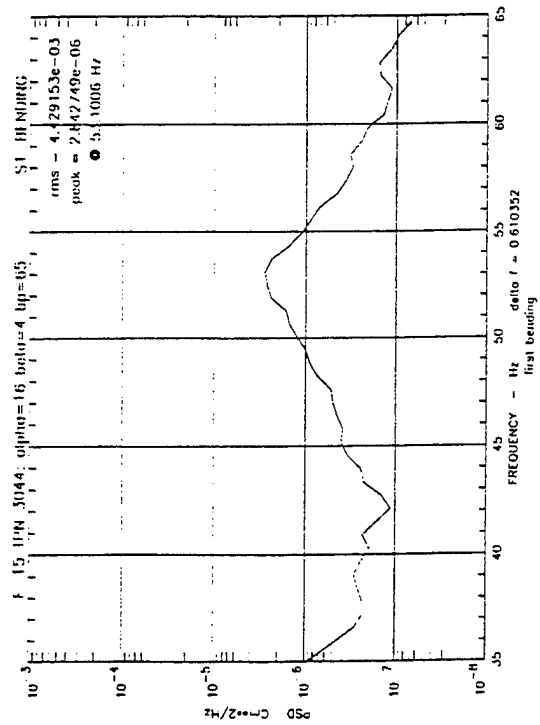
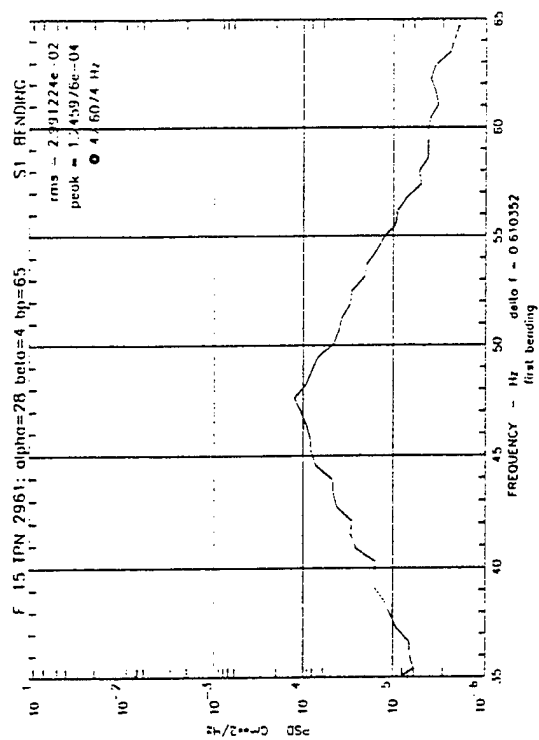
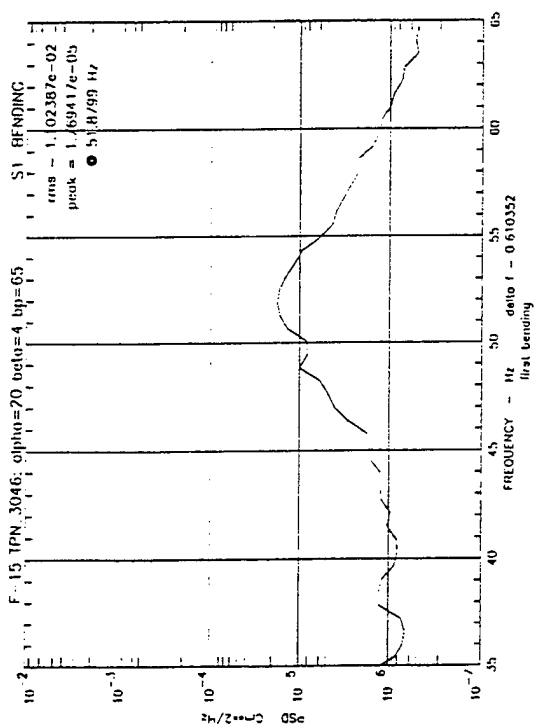


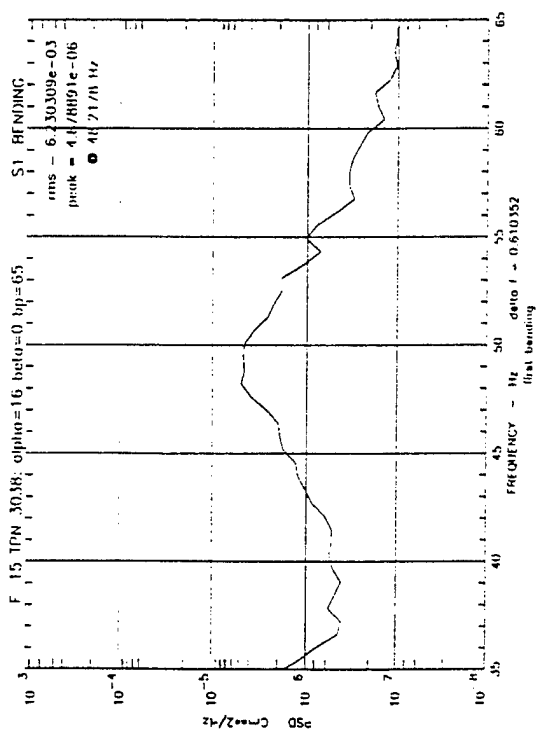
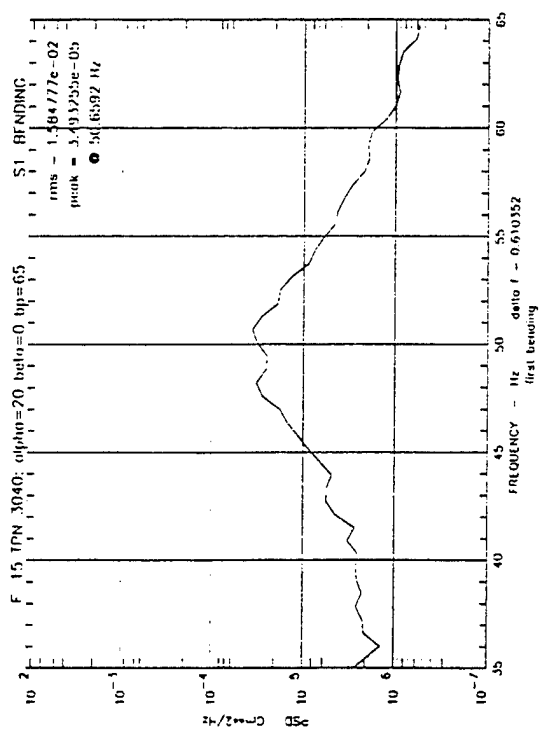
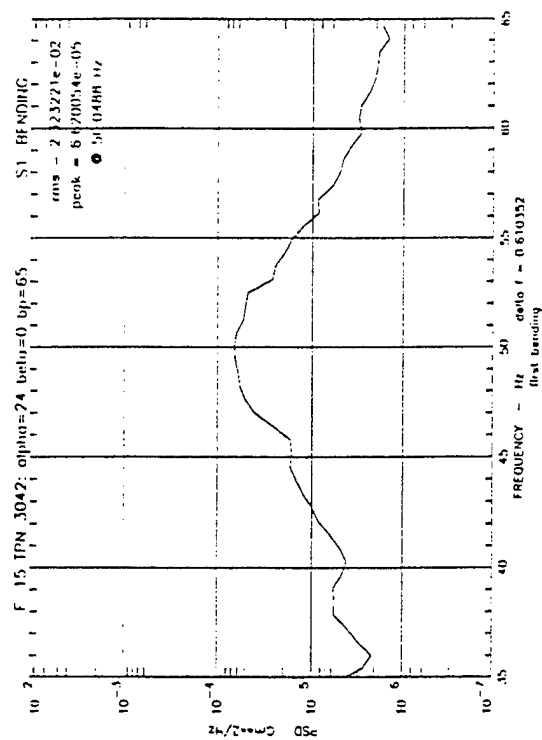
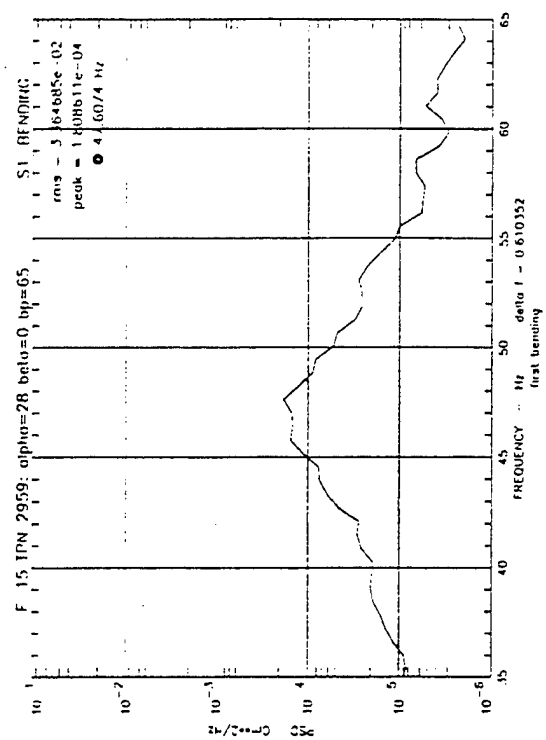


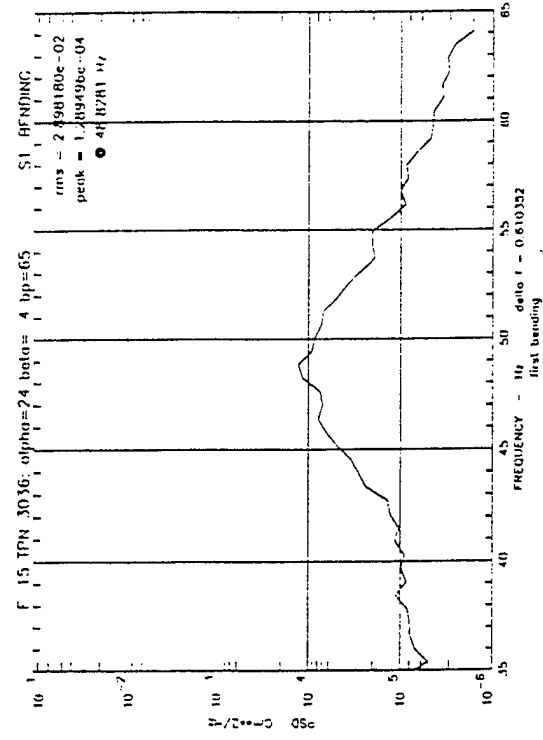
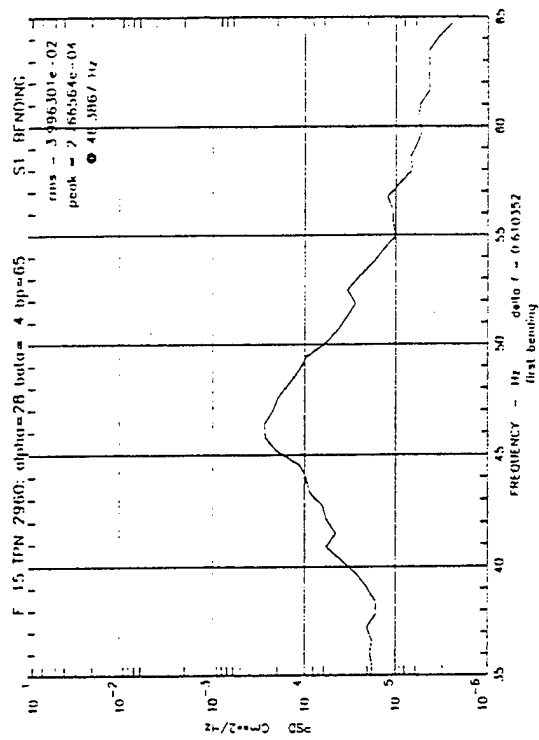
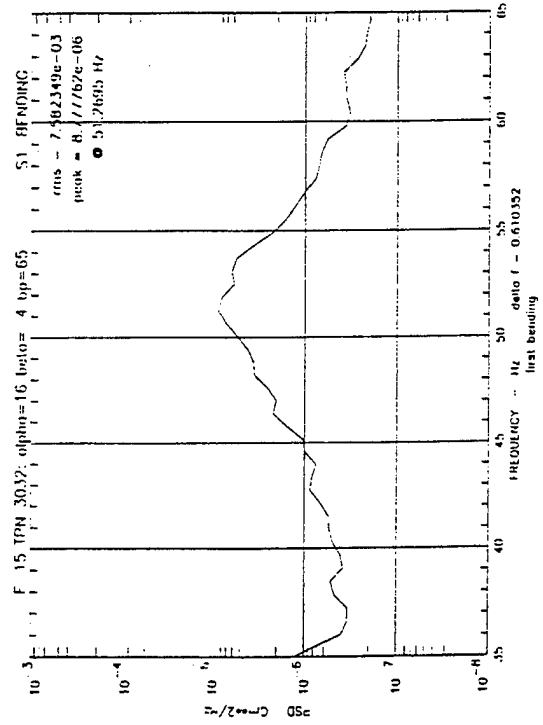
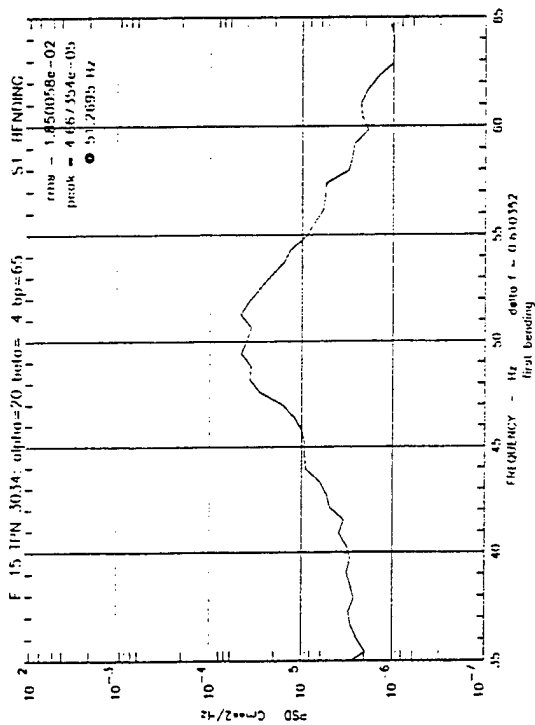


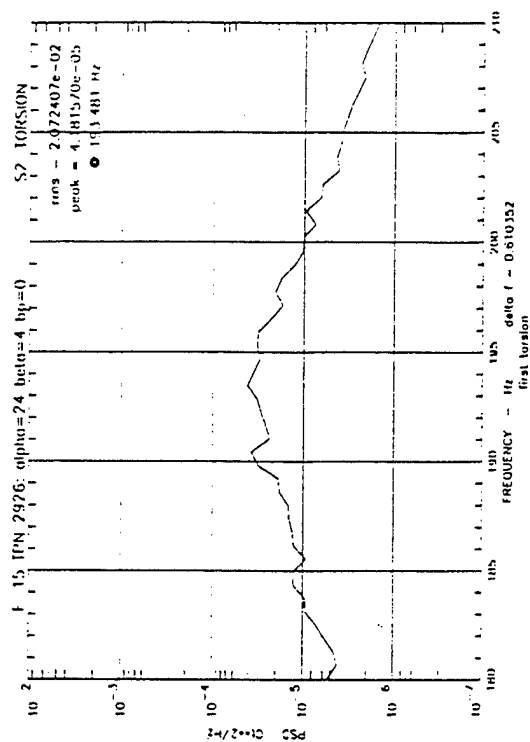
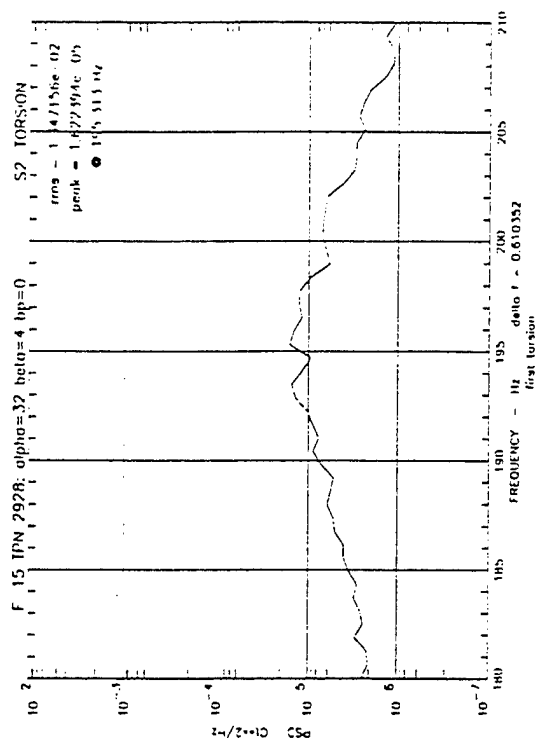
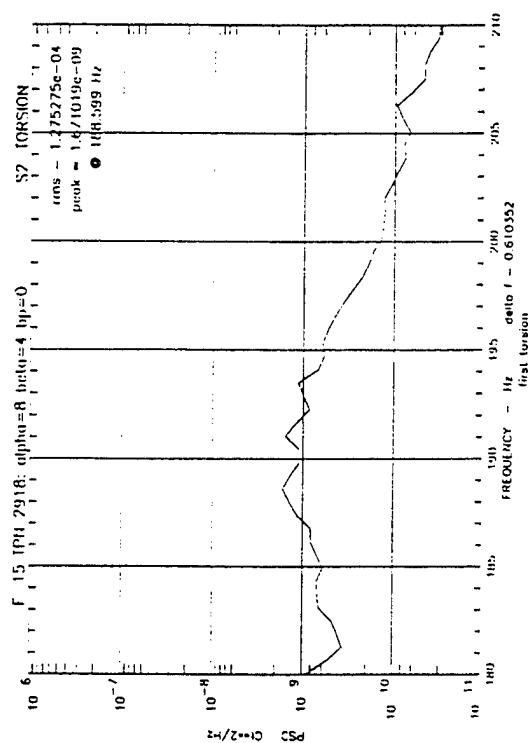
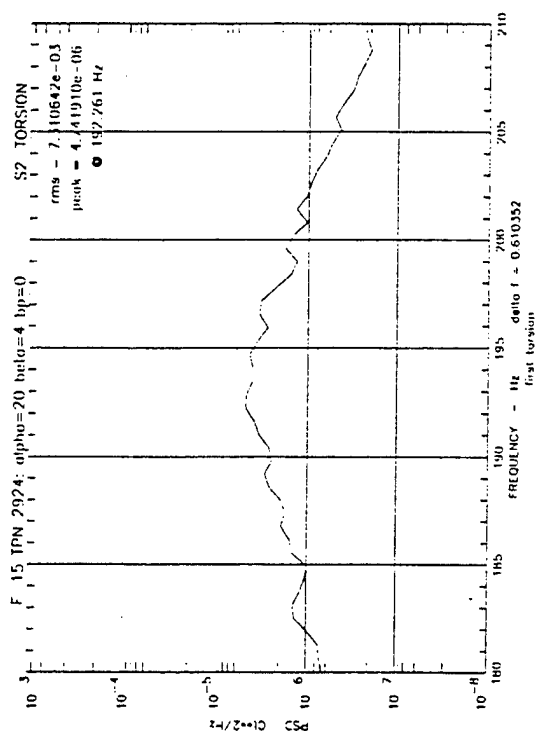


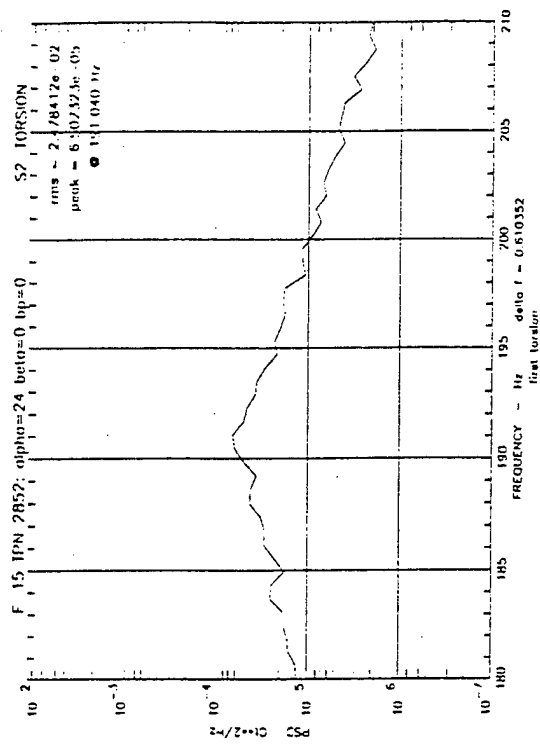
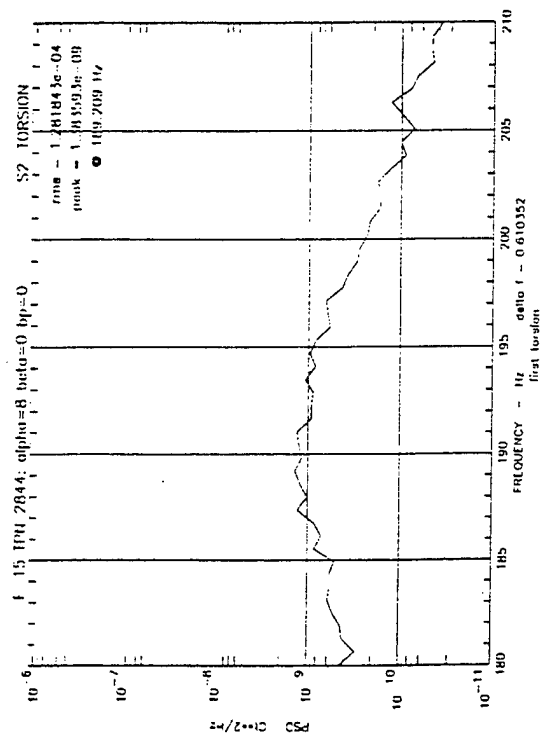
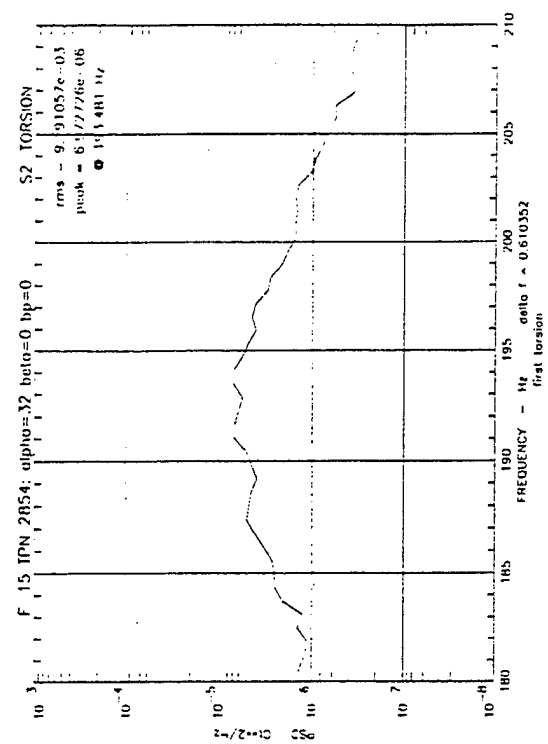
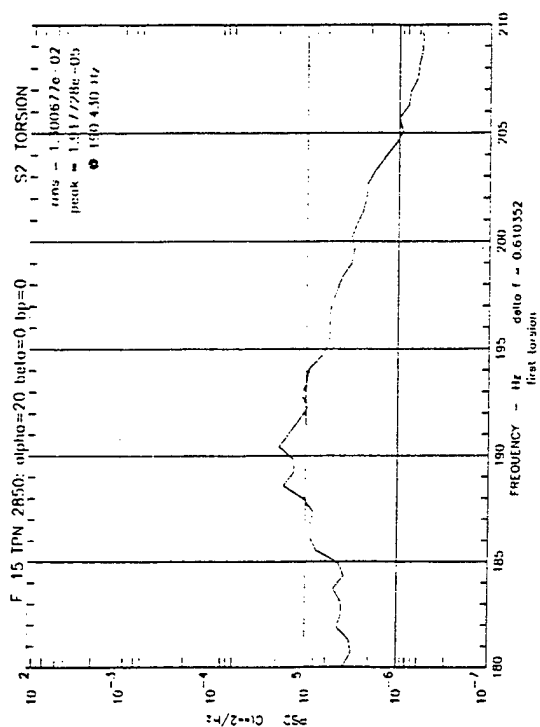


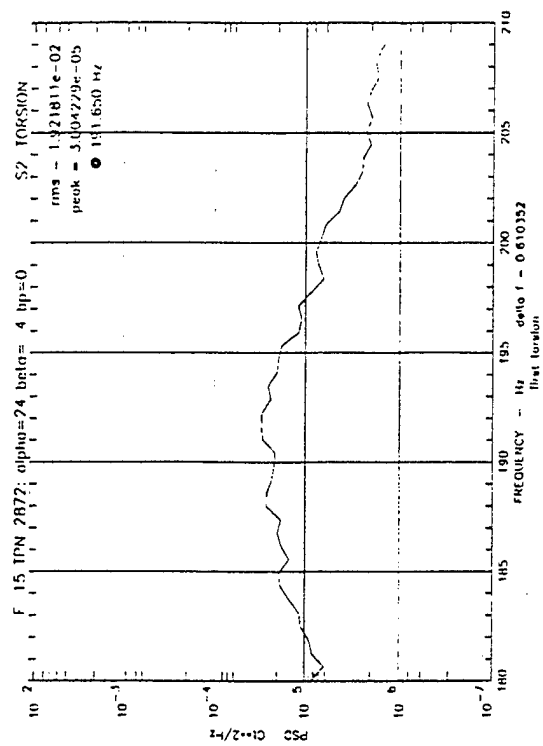
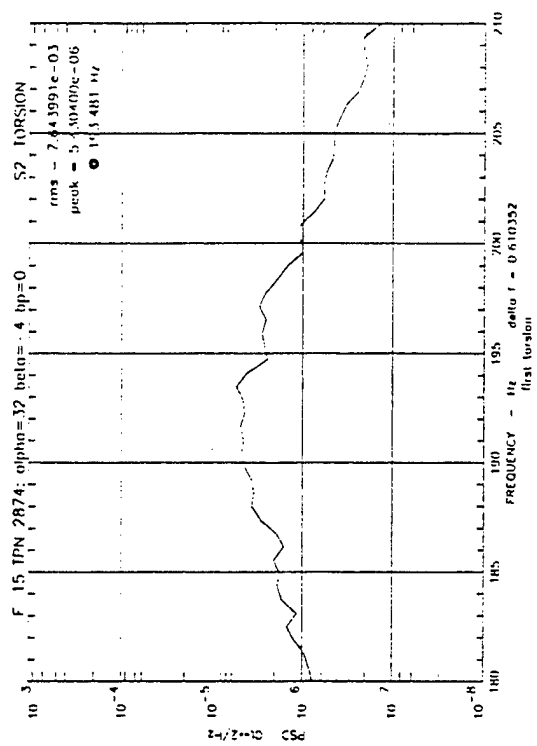
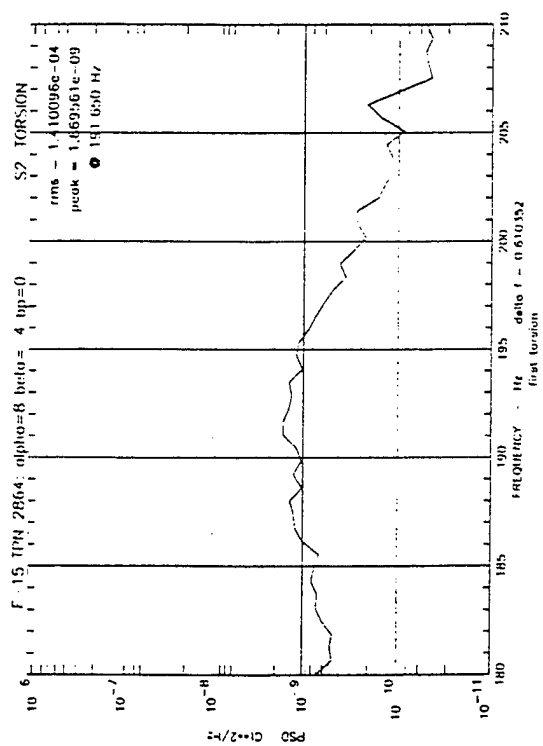
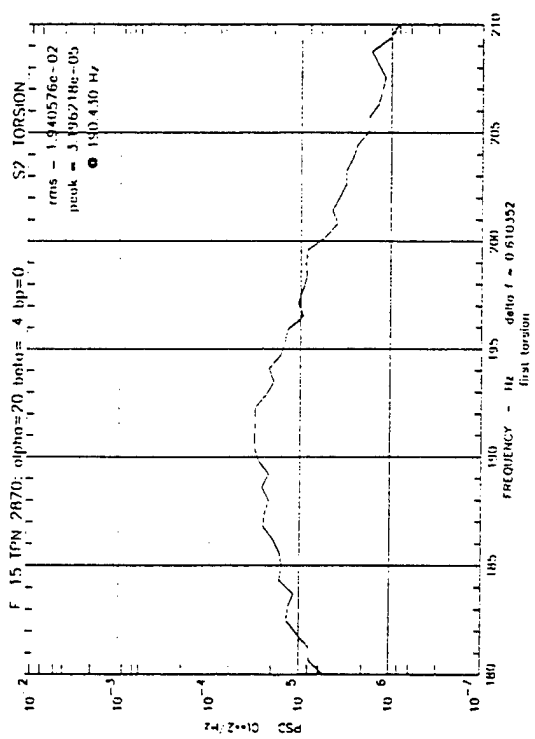


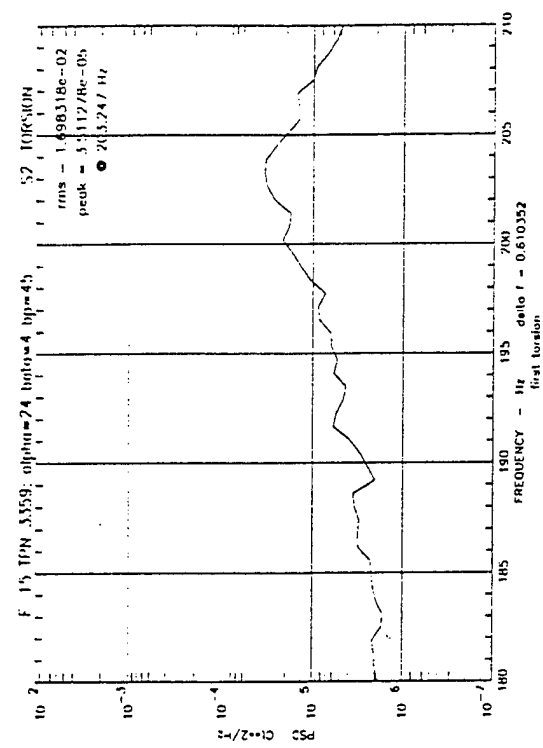
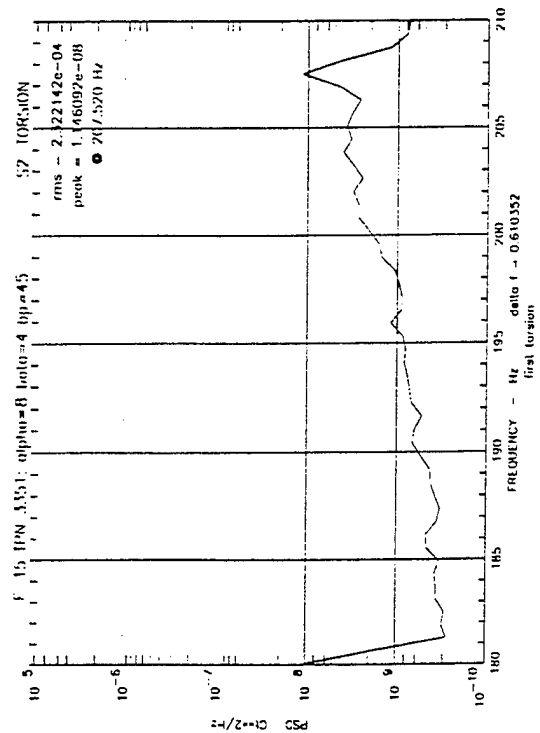
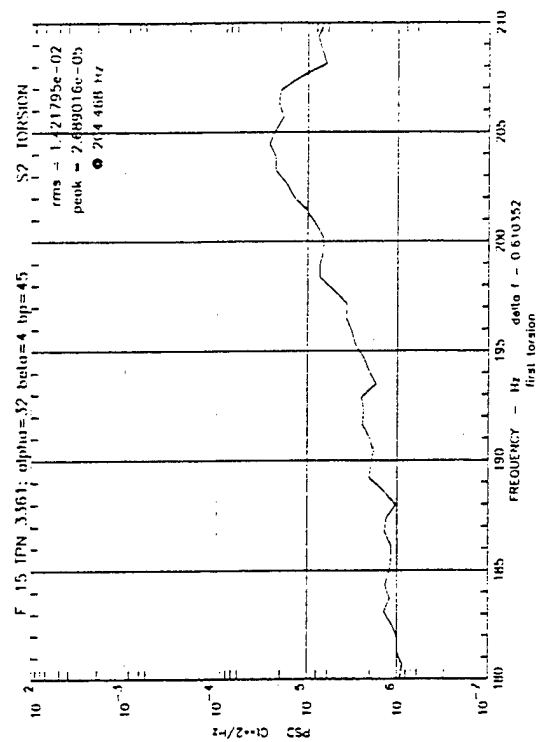
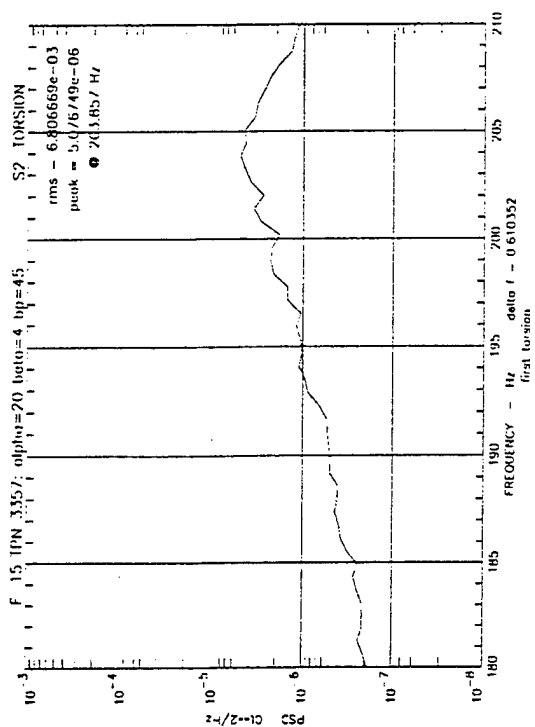


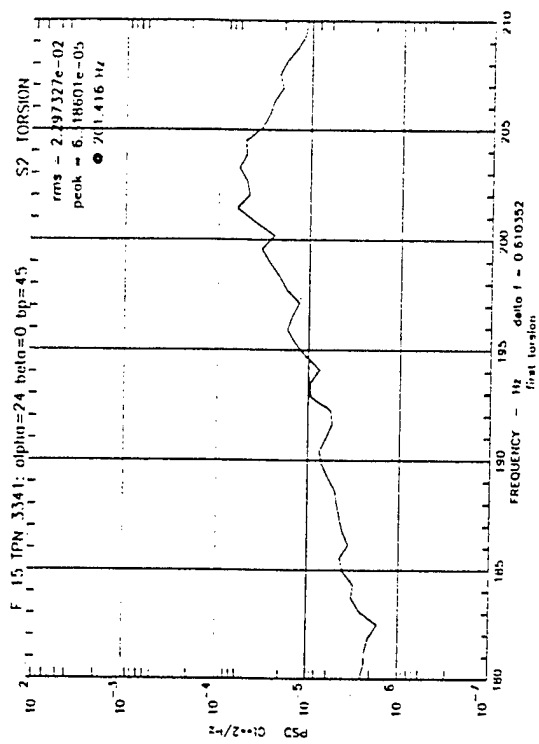
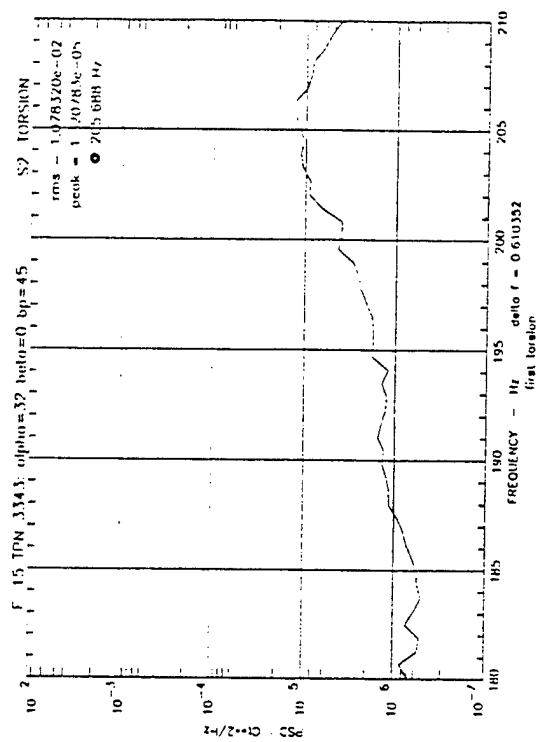
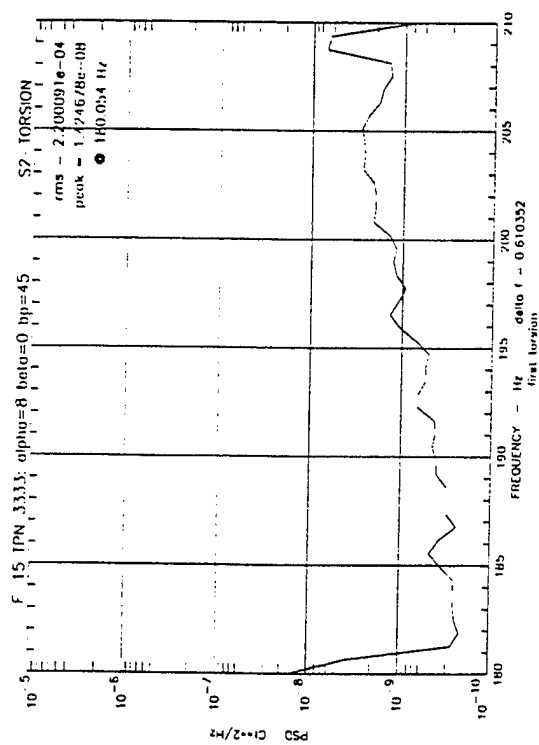
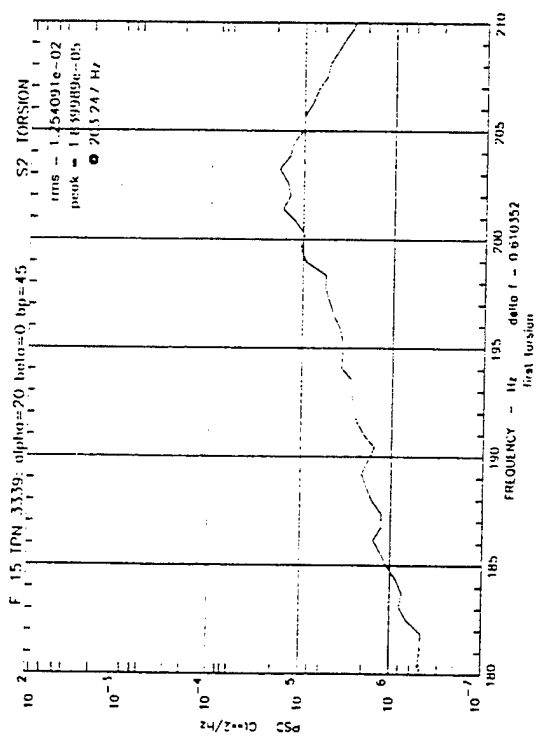


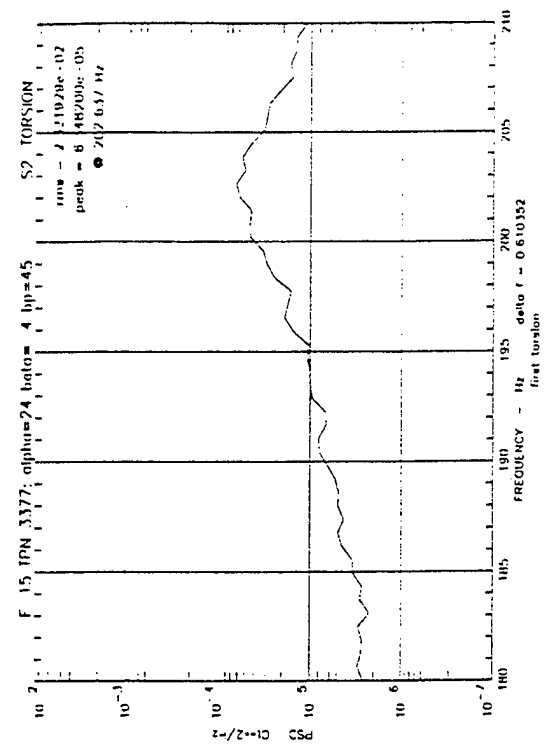
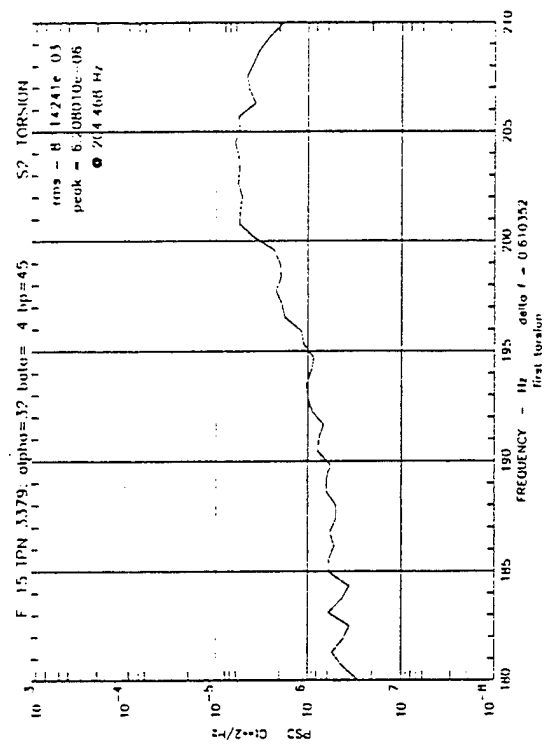
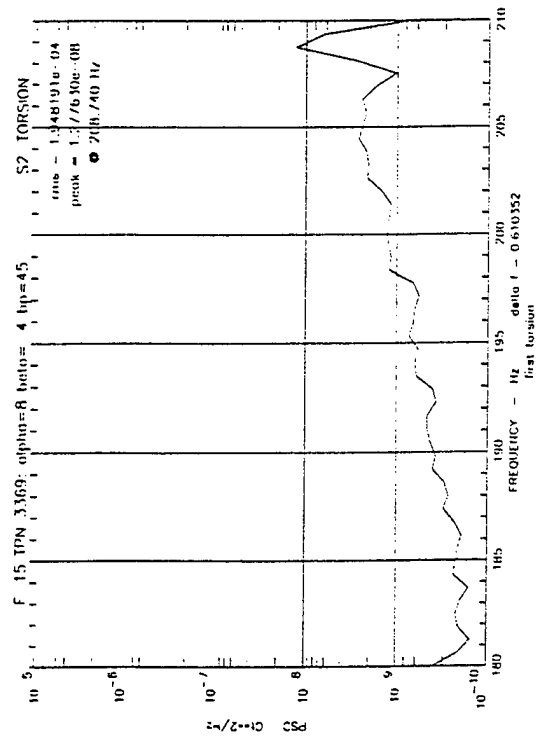
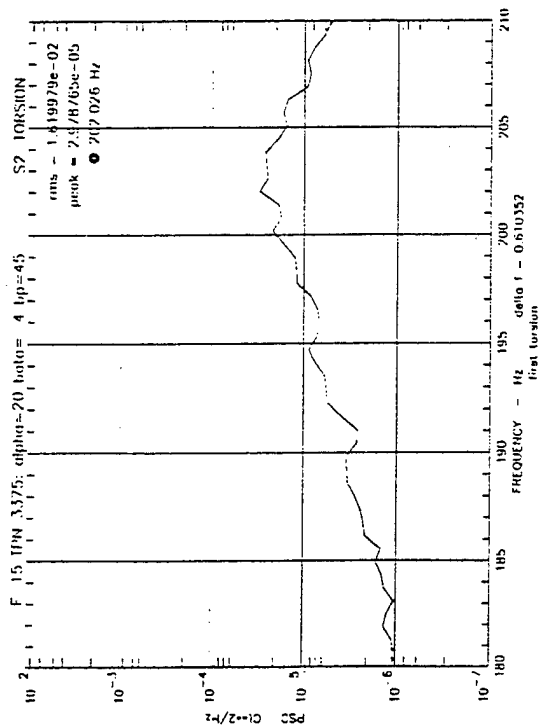


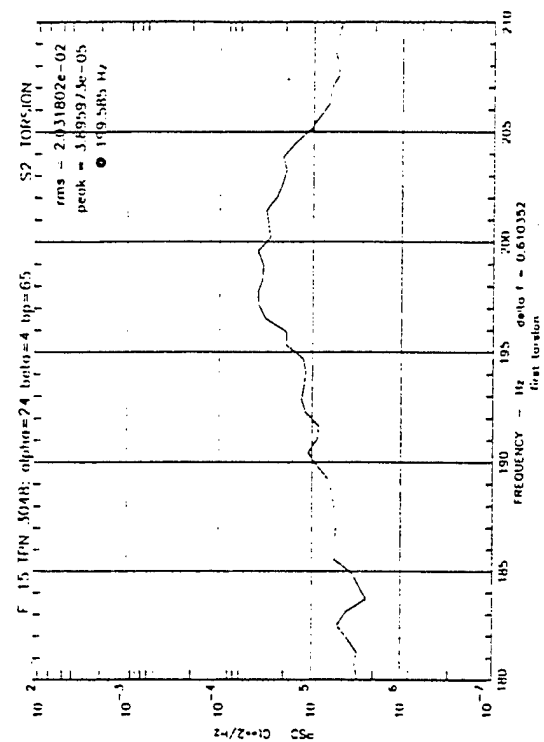
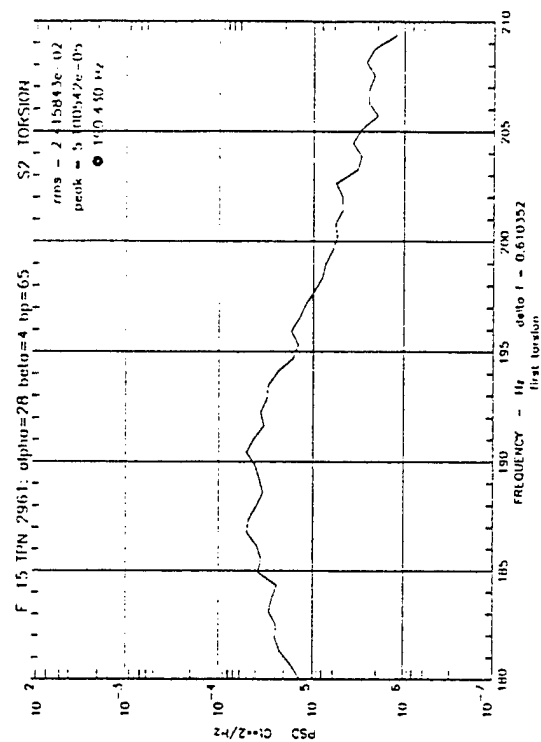
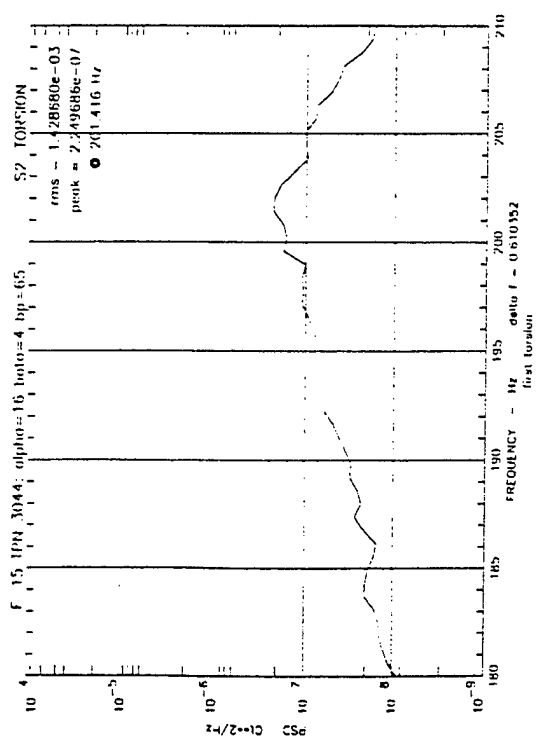
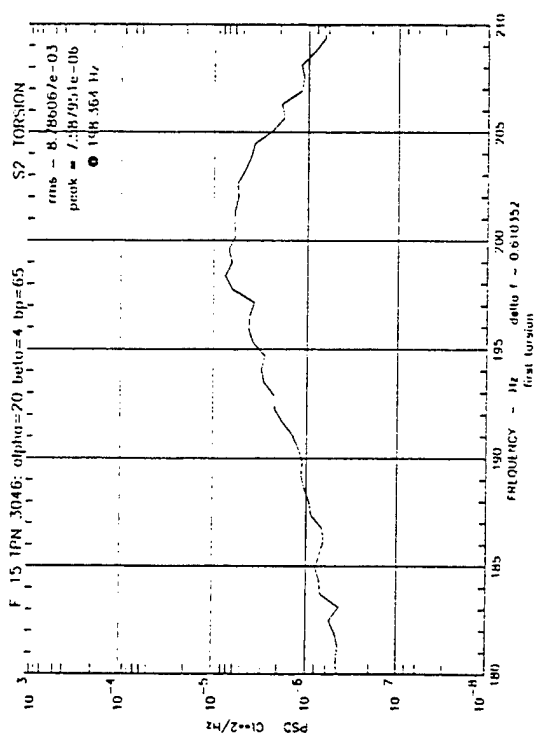


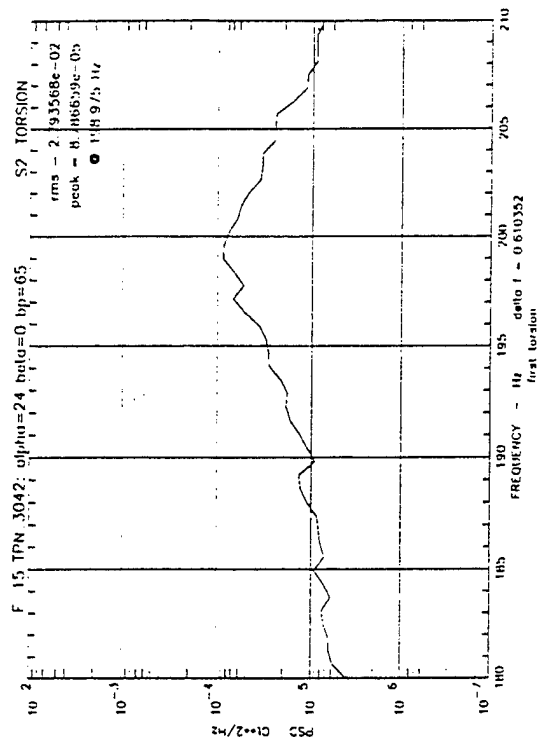
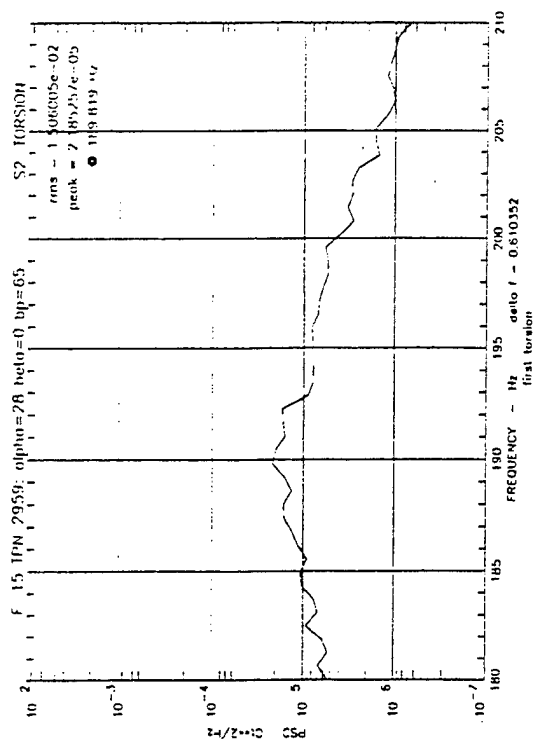
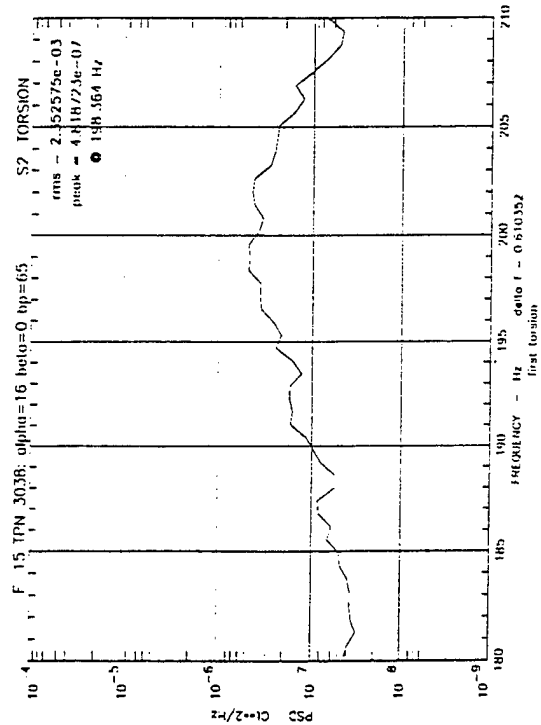
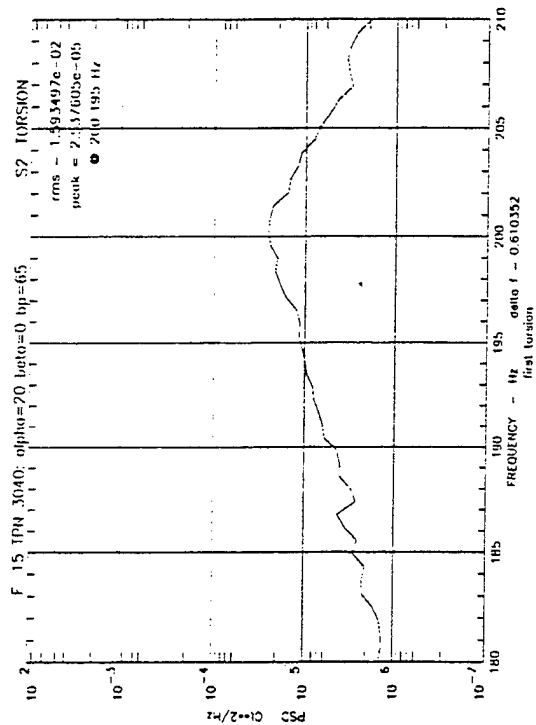


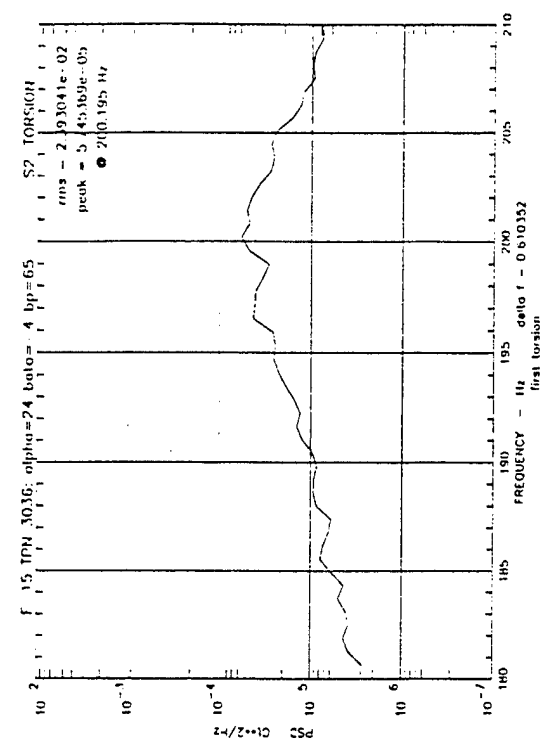
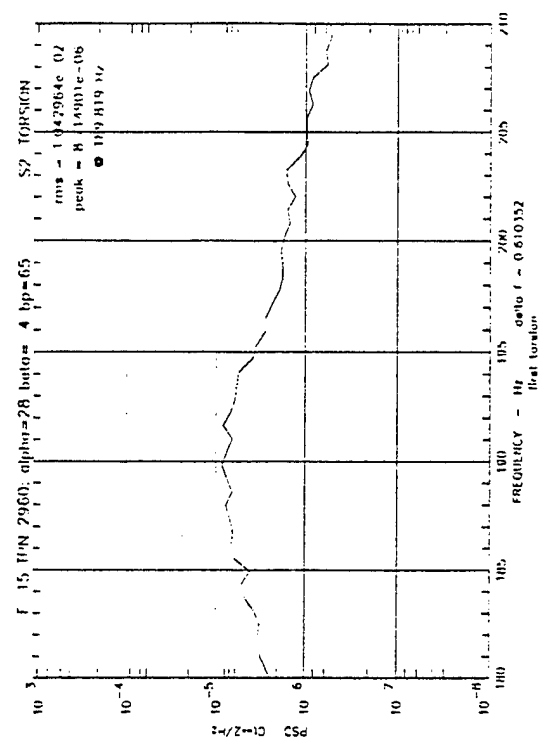
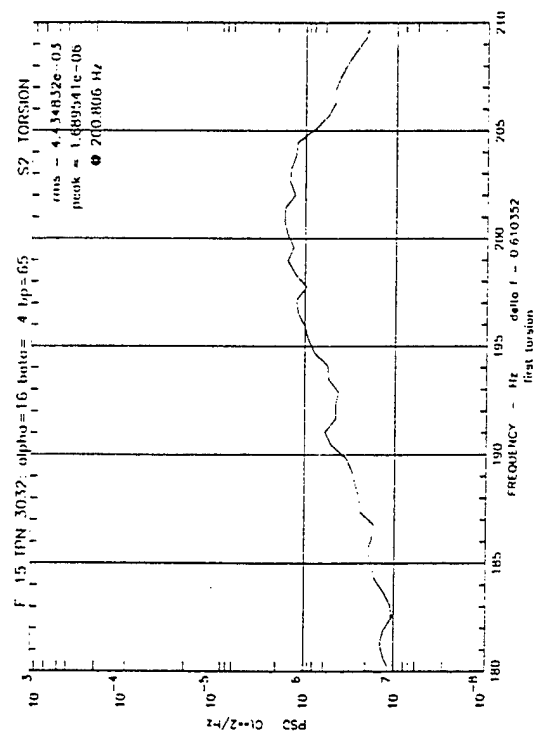
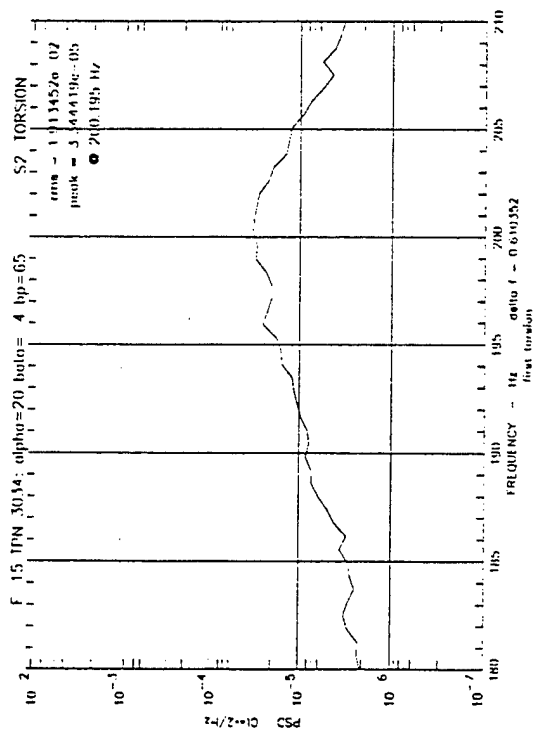


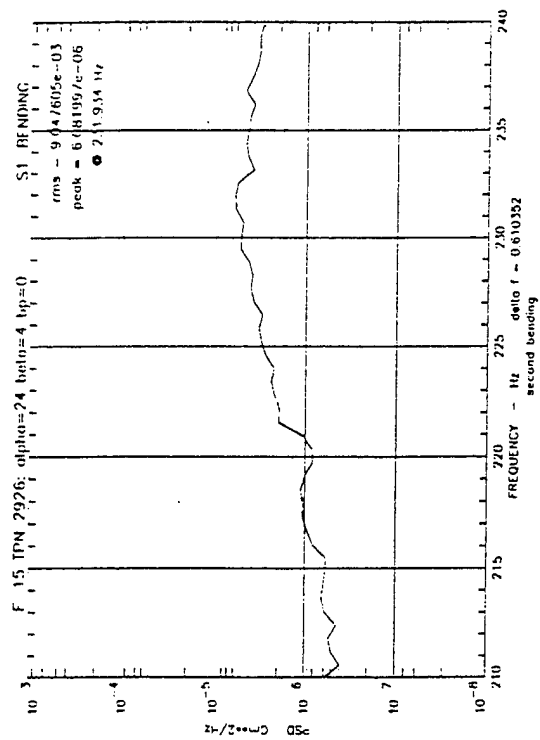
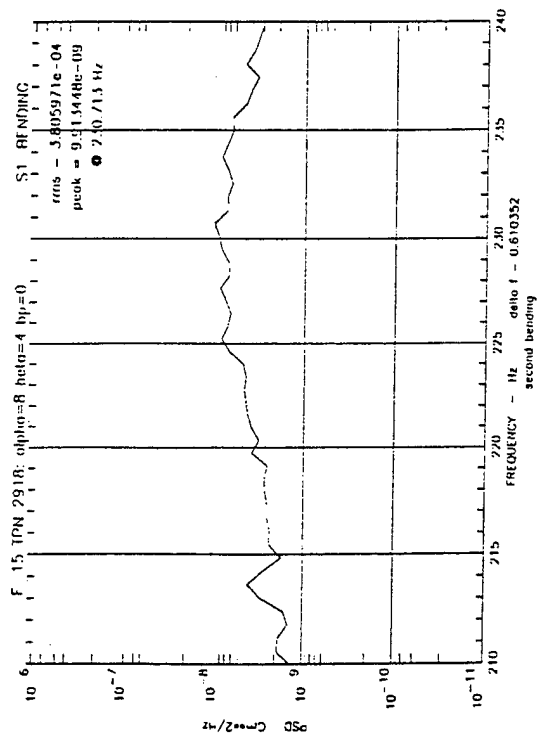
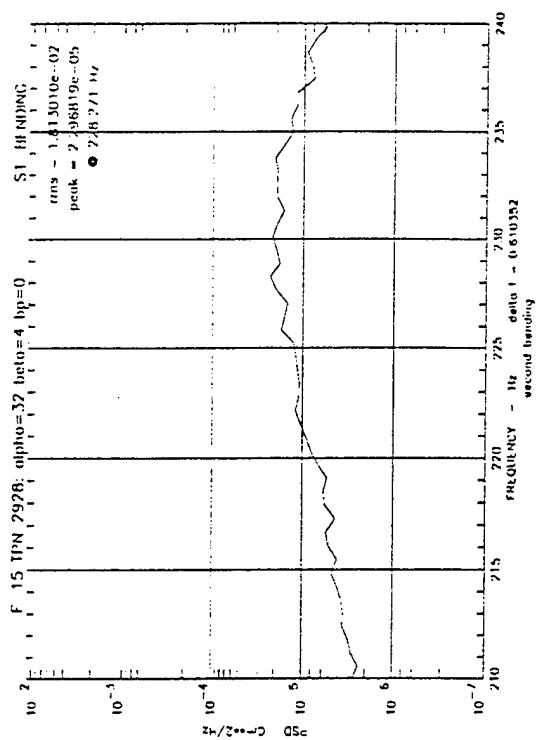
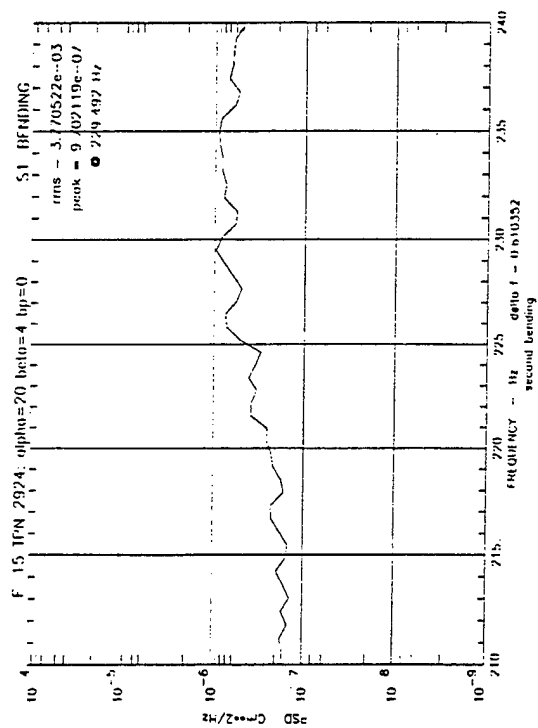


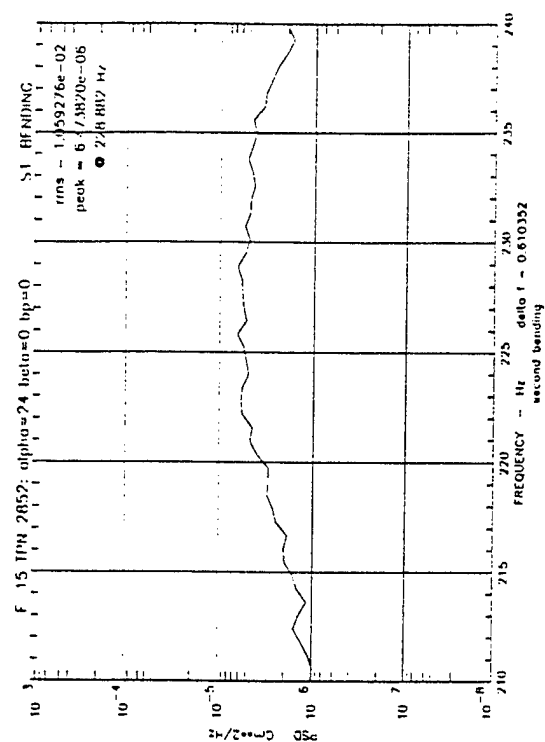
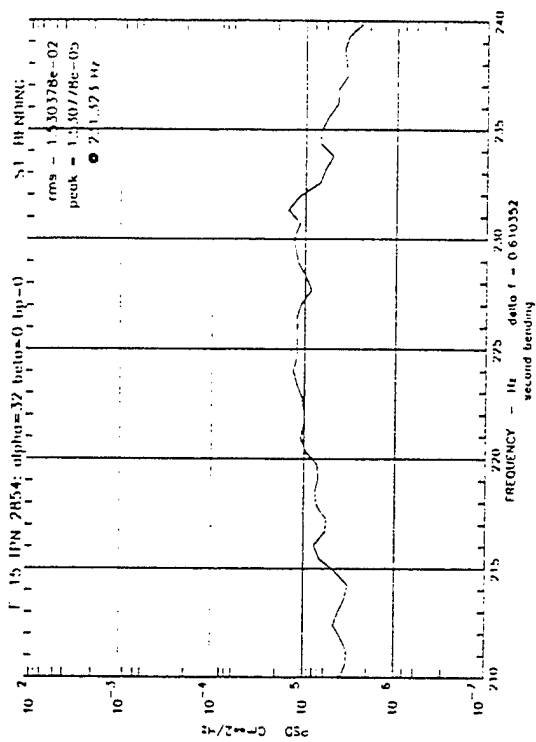
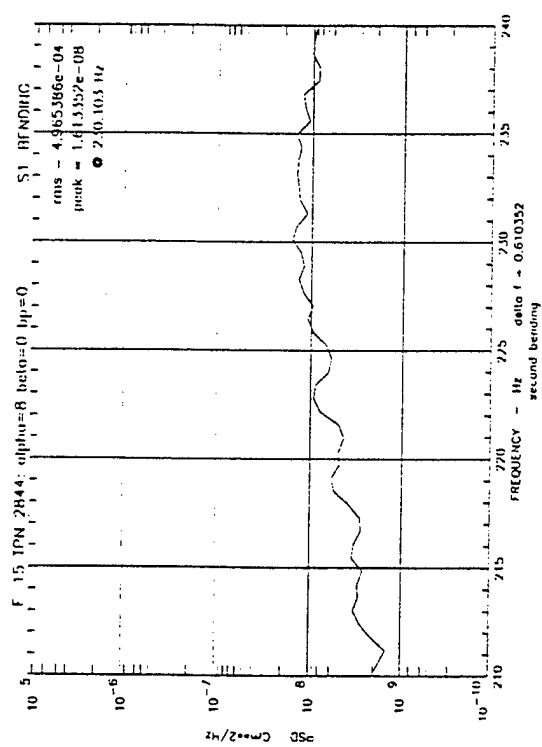
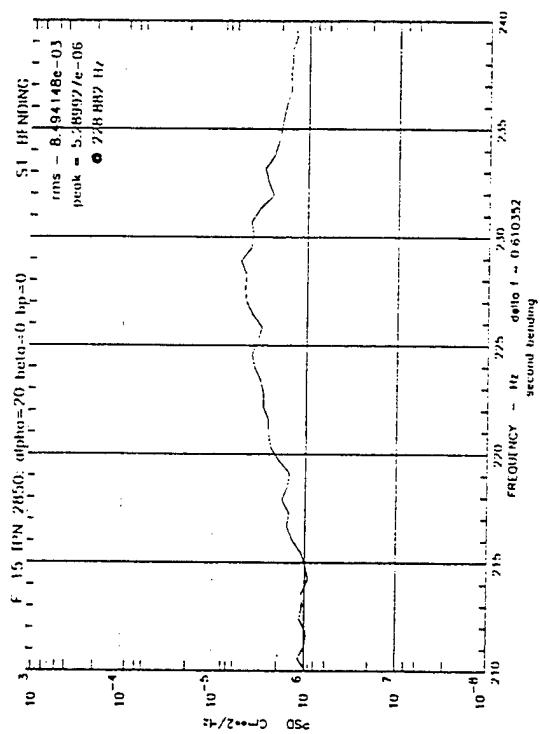


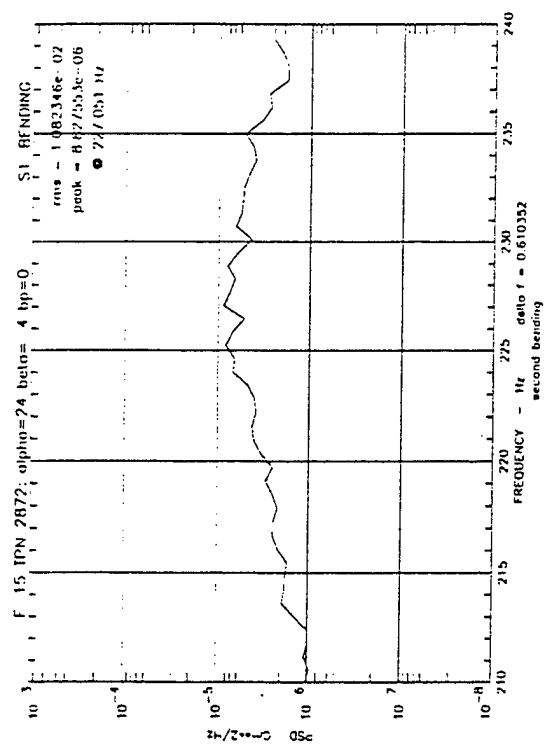
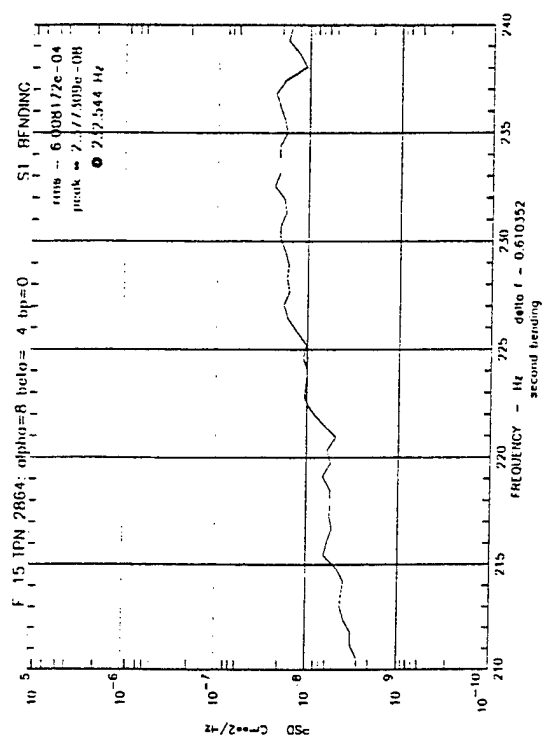
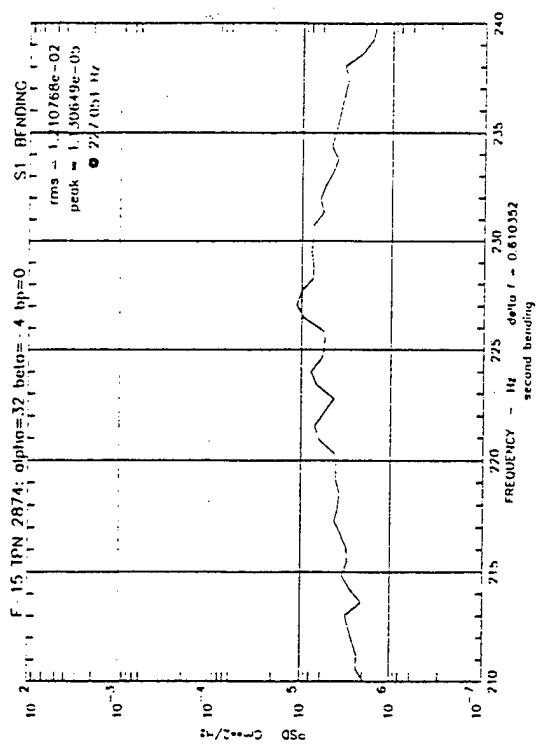
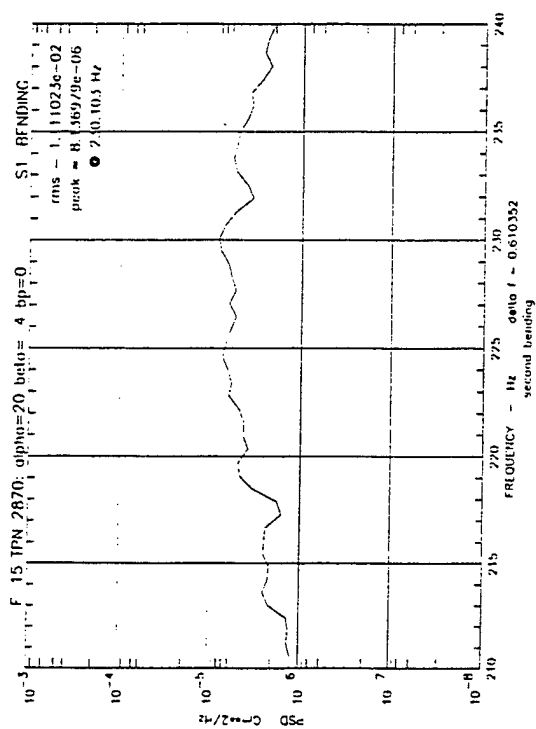


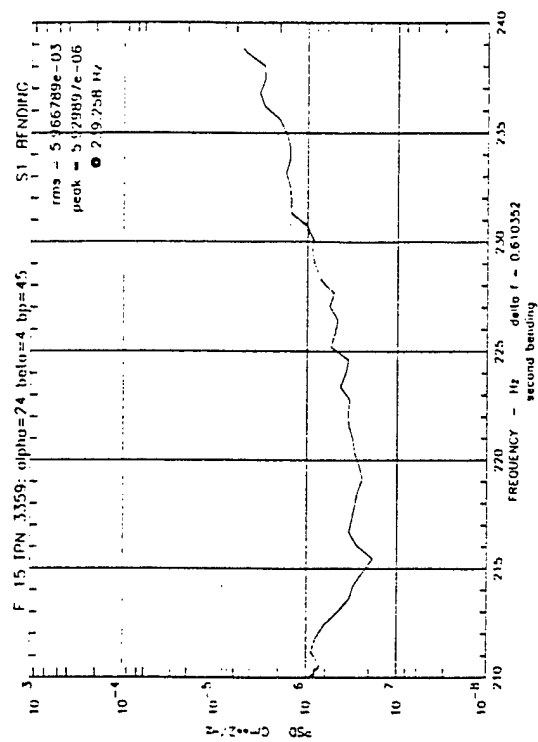
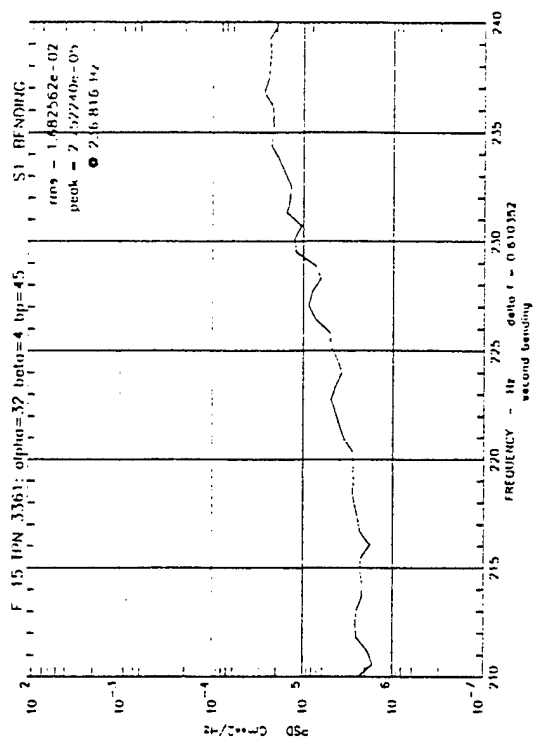
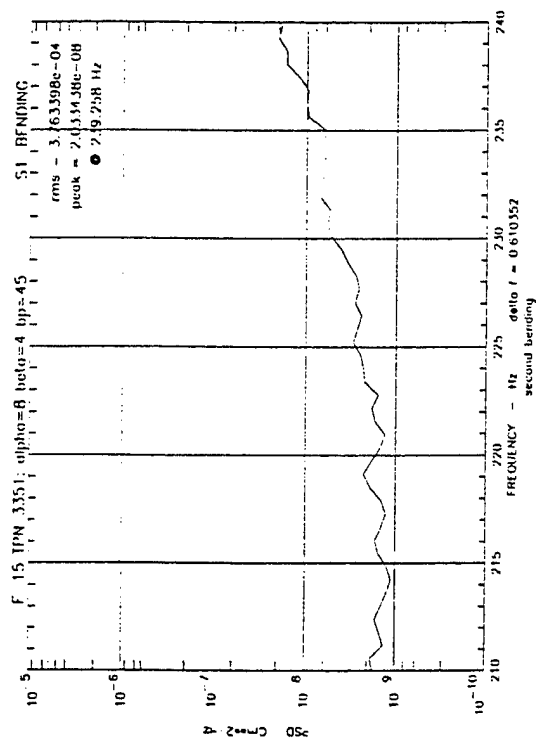
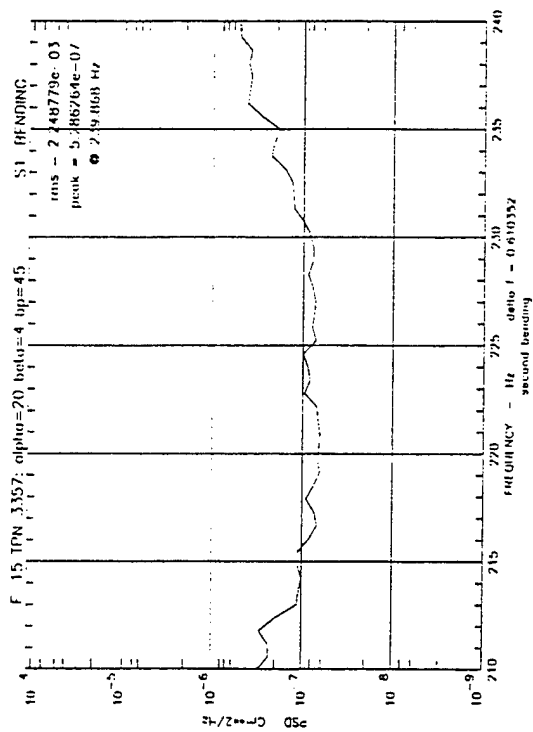


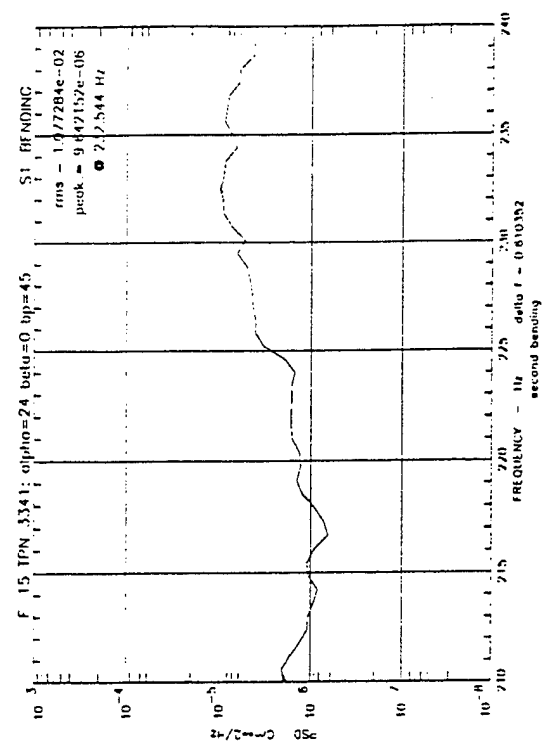
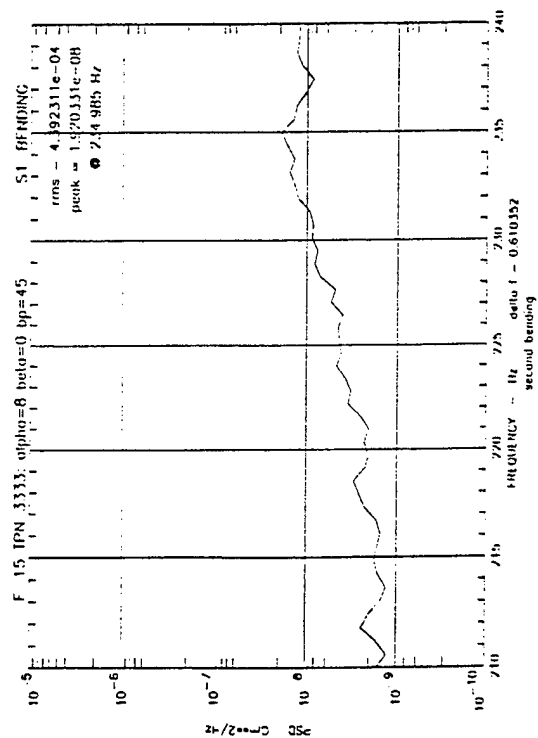
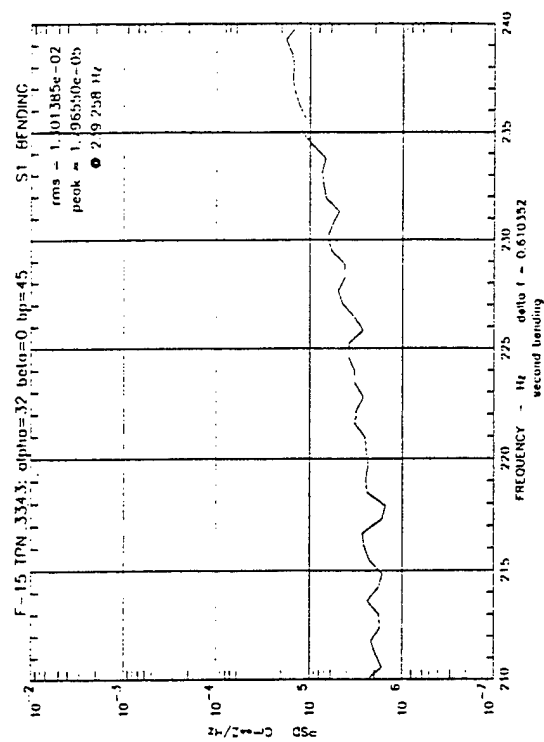
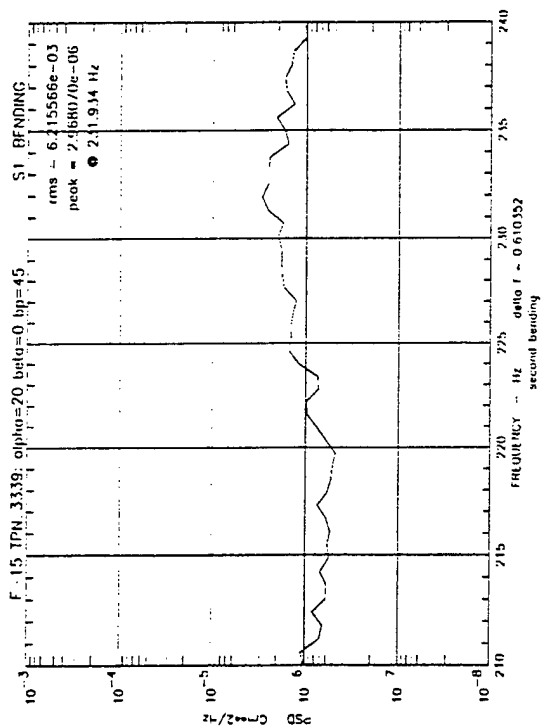


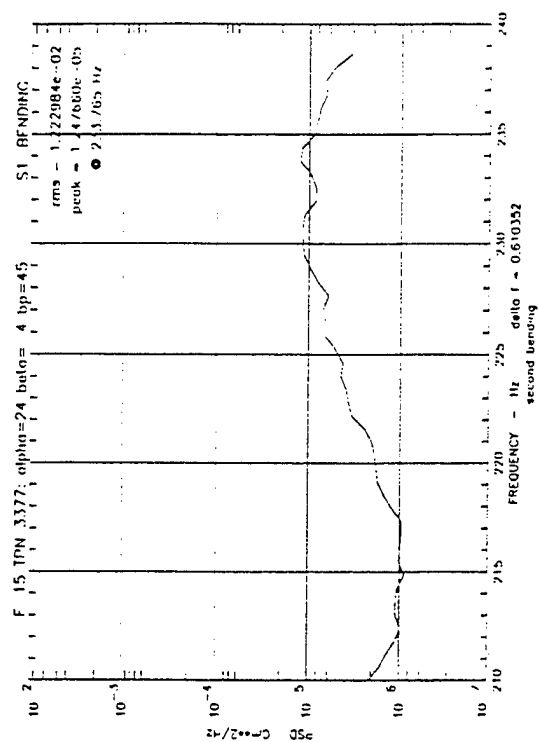
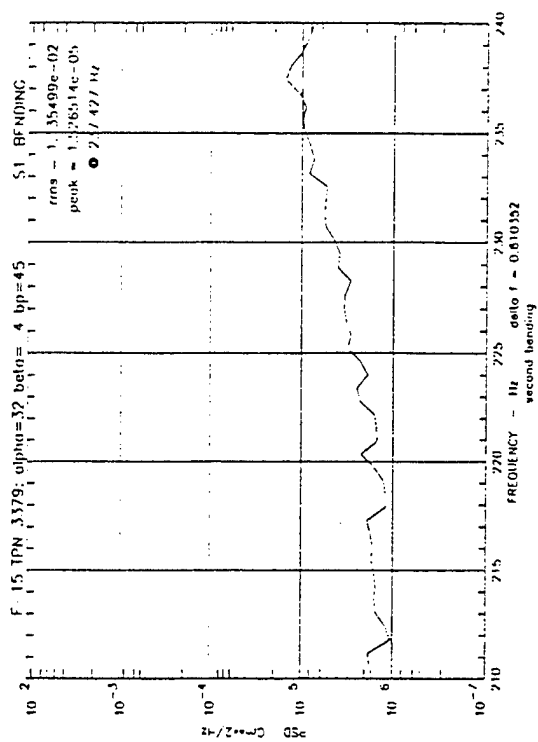
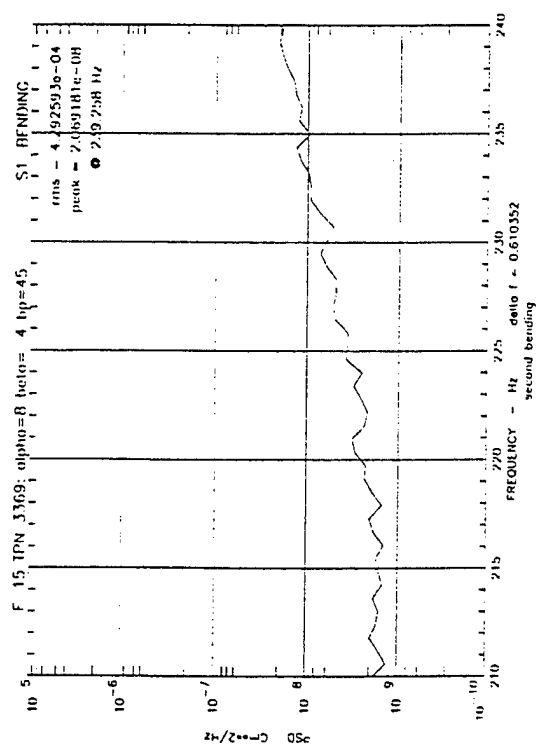
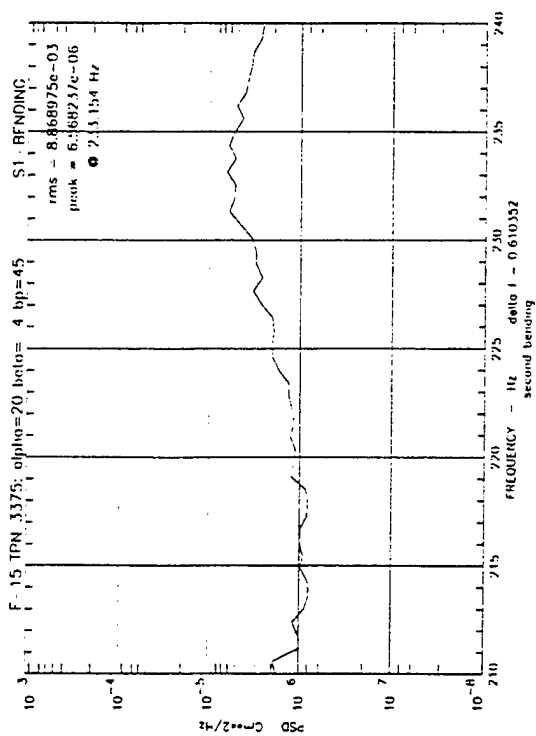


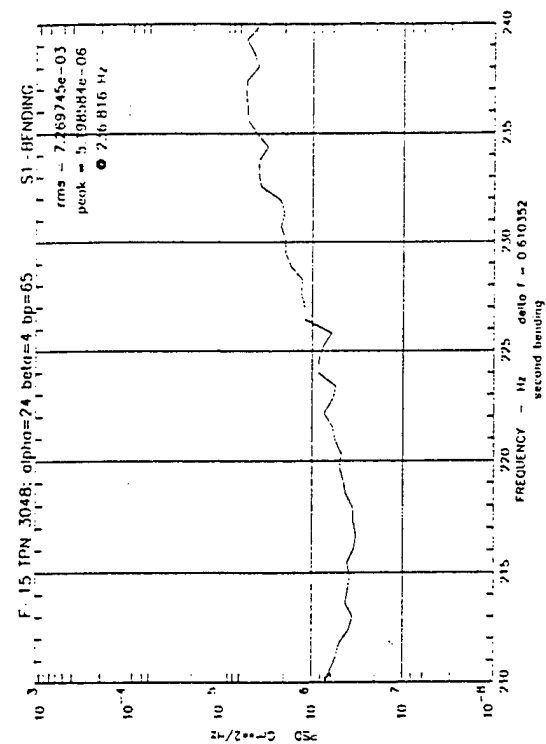
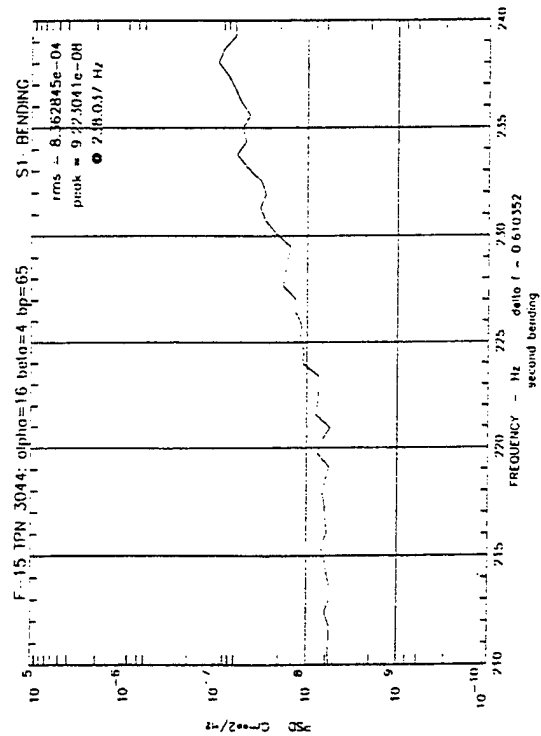
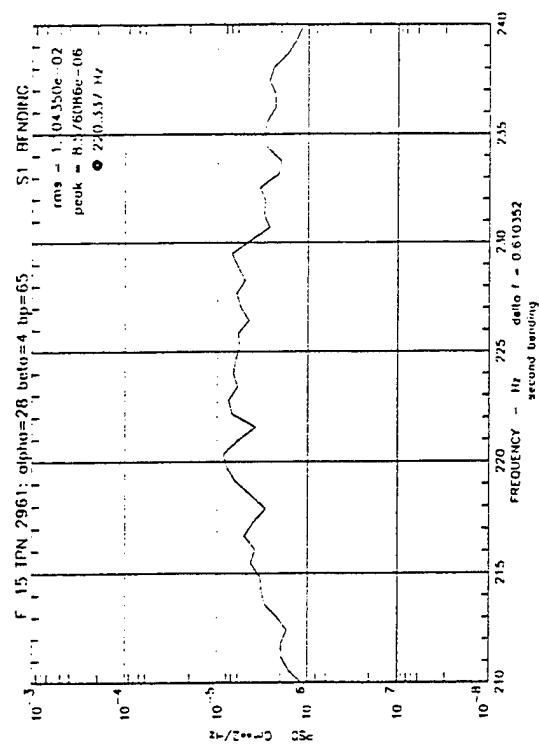
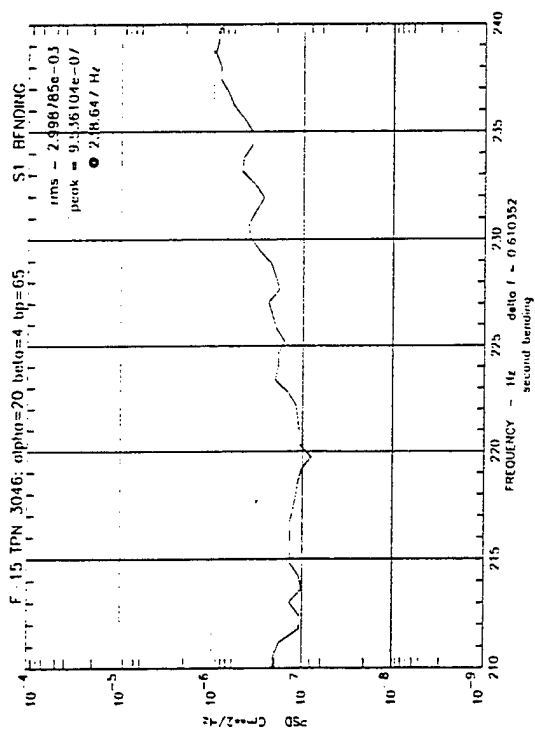


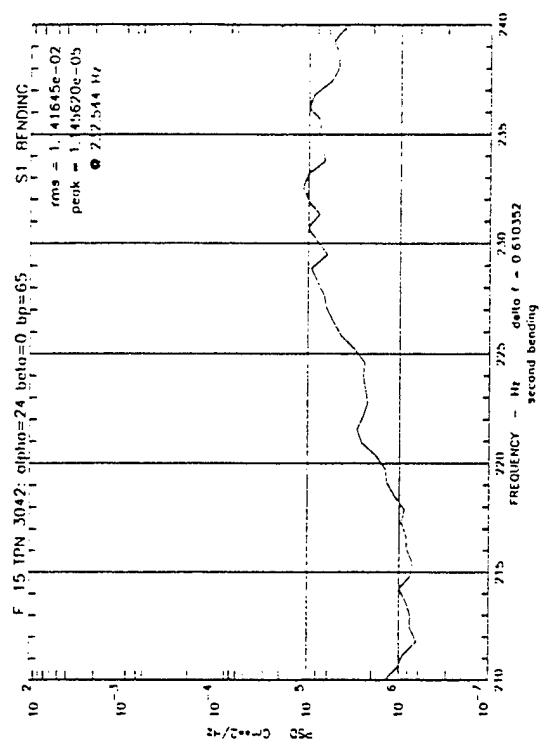
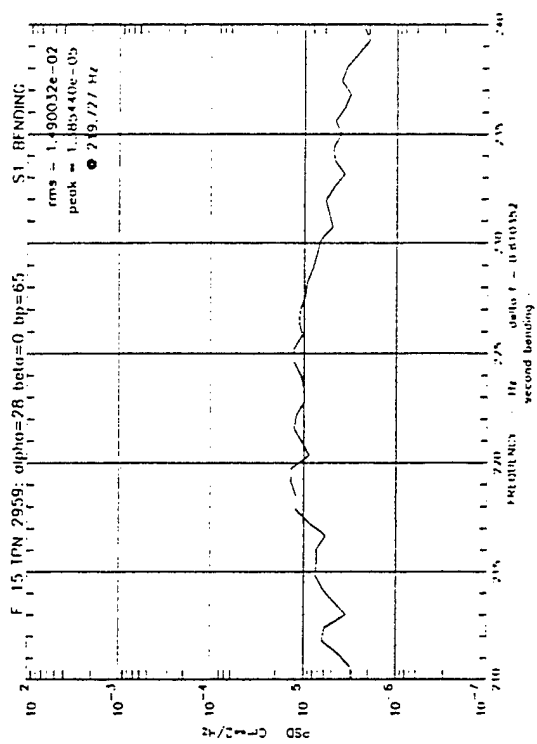
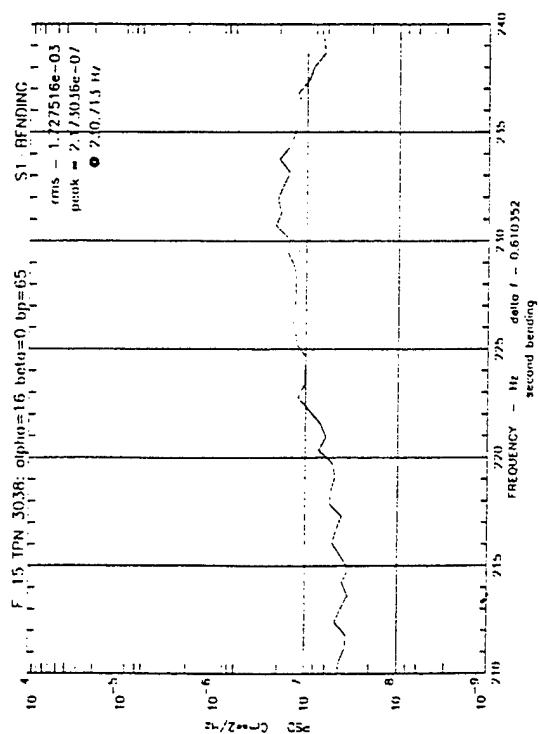
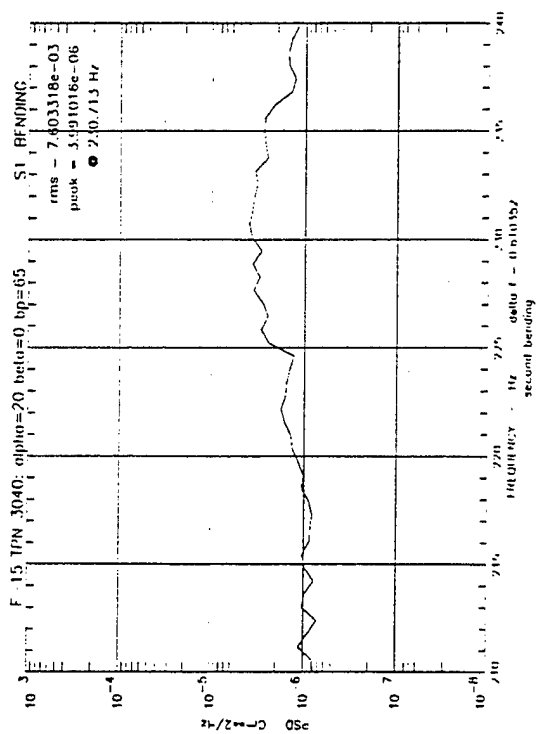


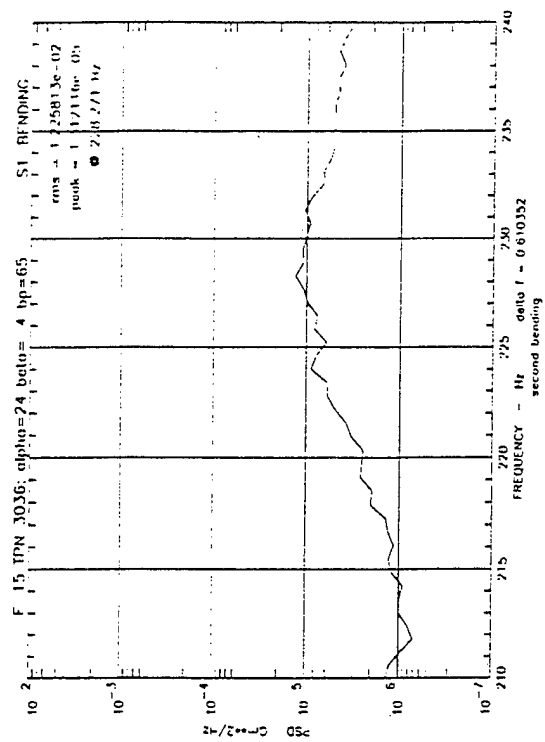
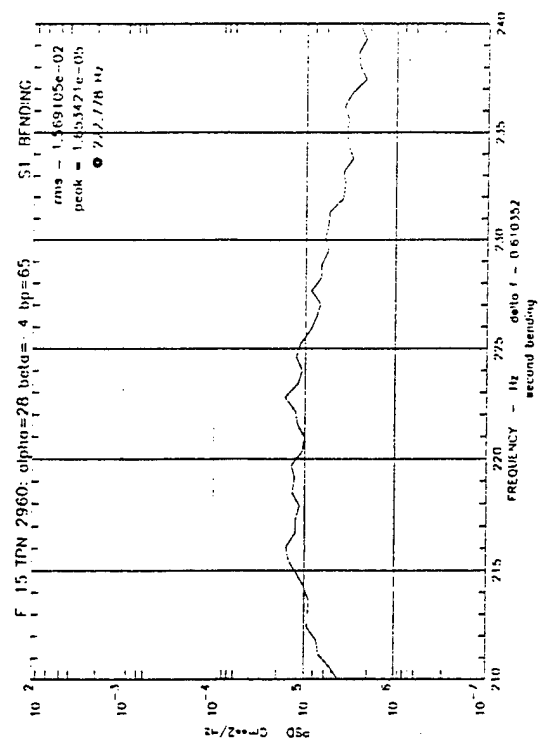
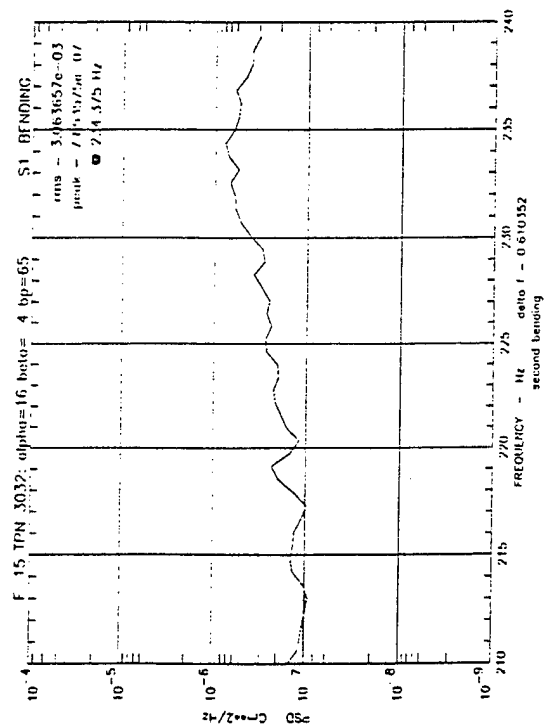
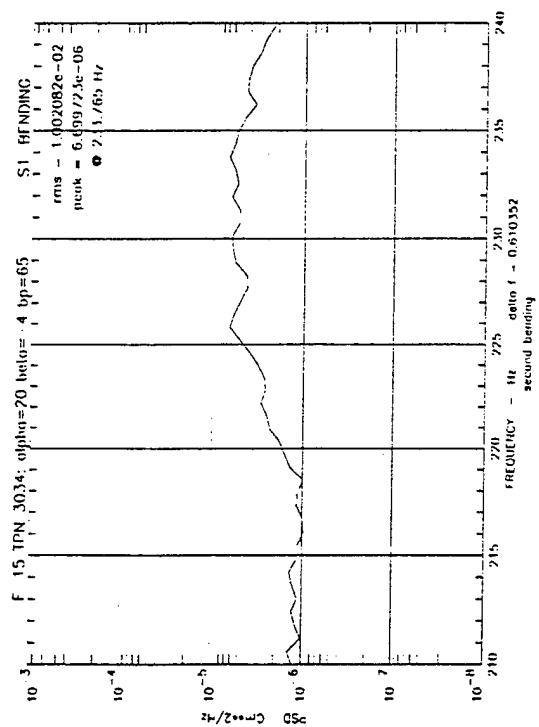










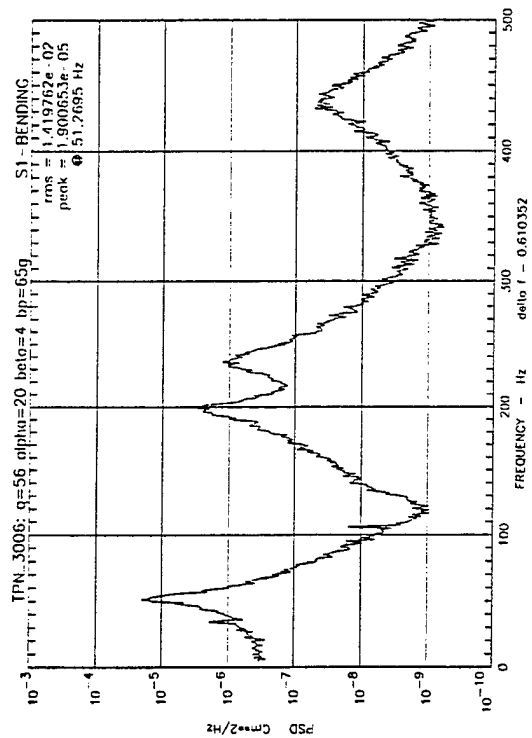


**FLEXIBLE TAIL RESPONSE
NON DIMENSIONAL BENDING AND TORSION
PSD GRAPHS**

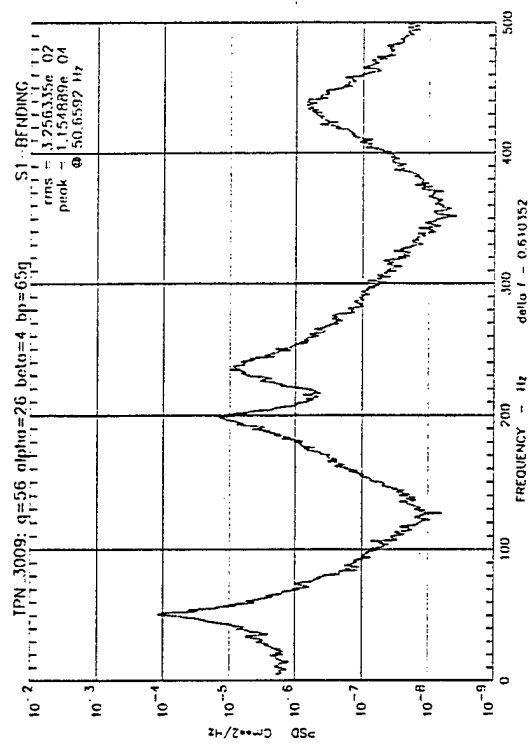
Q= 56PSF

3.1.1.2 GBP = 65 PSI, BETA = 0, +4, -4 DEG, ALPHA=16....28 DEG

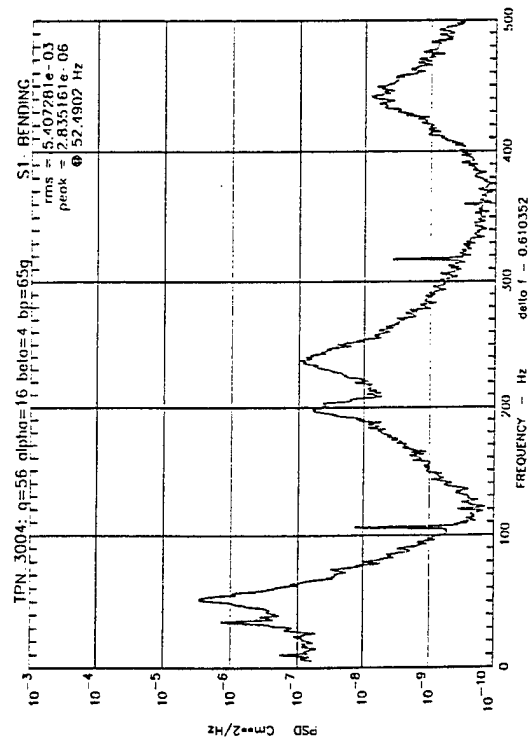
F-15 Tail Buffet Test



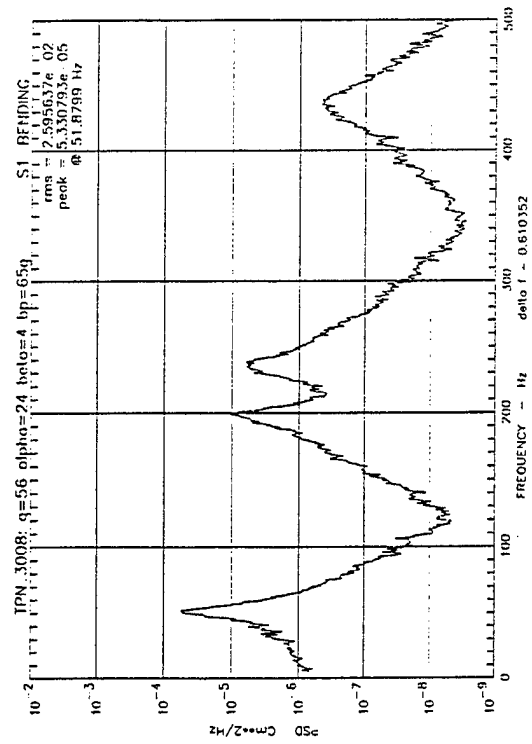
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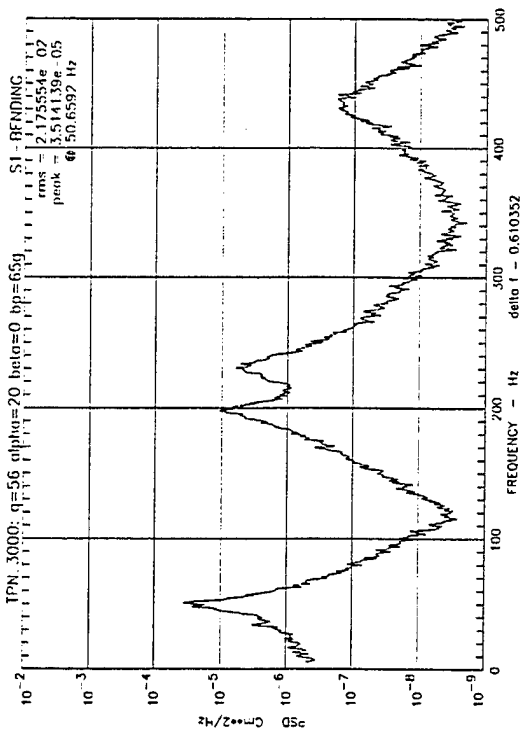
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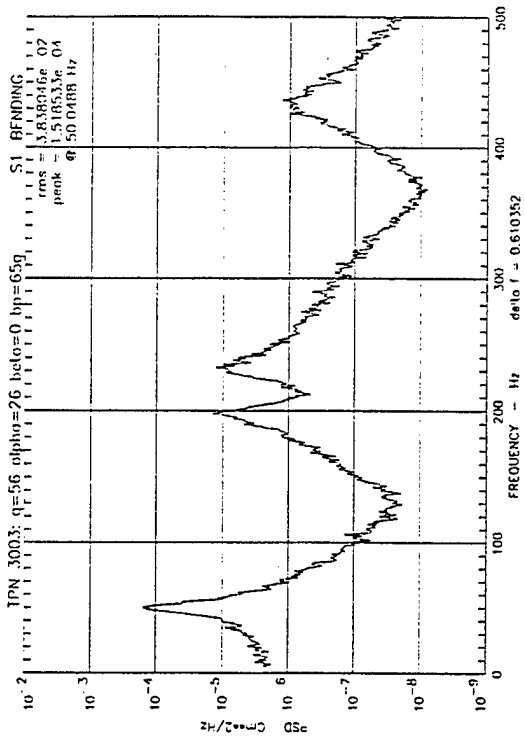
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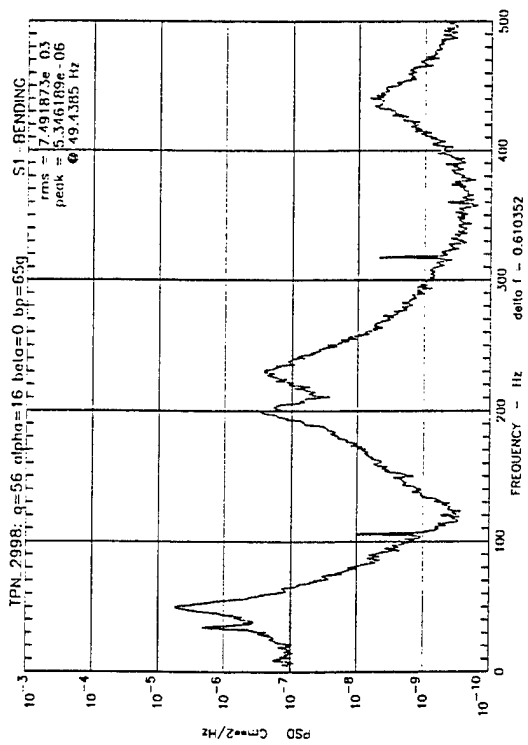
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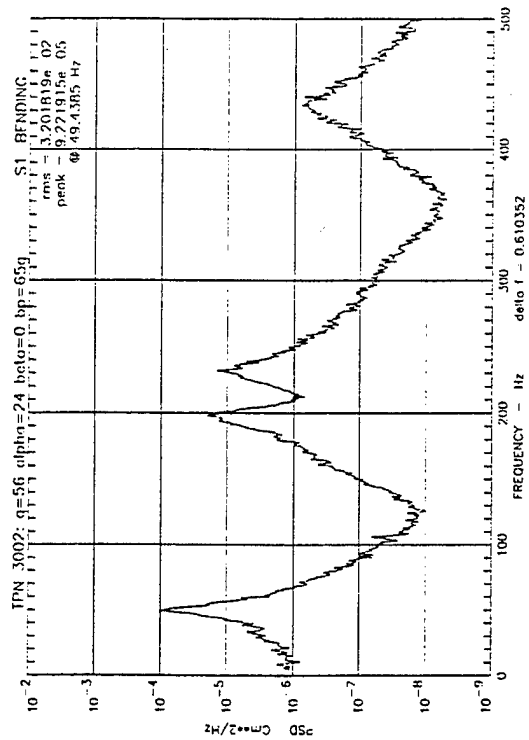
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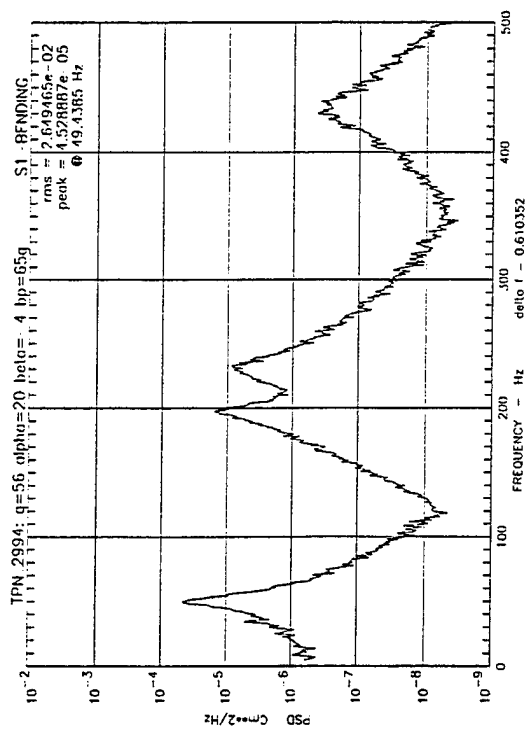
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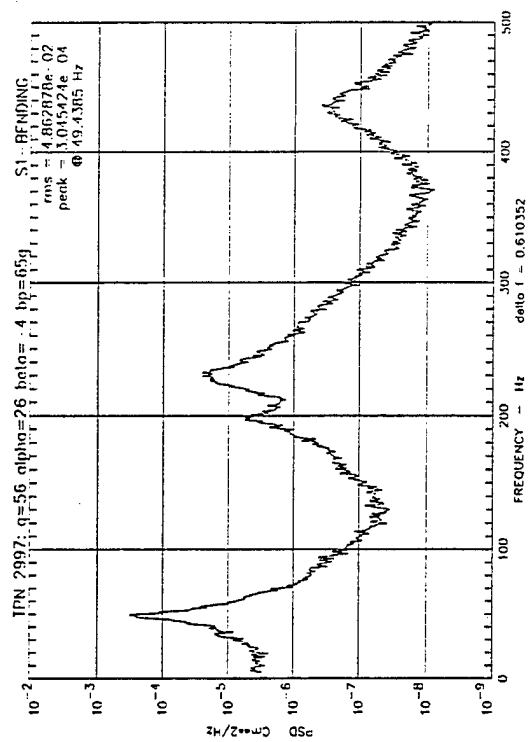
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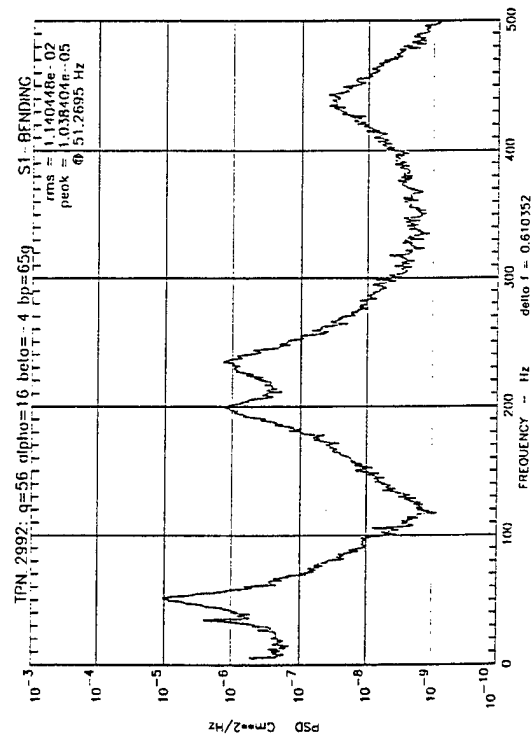
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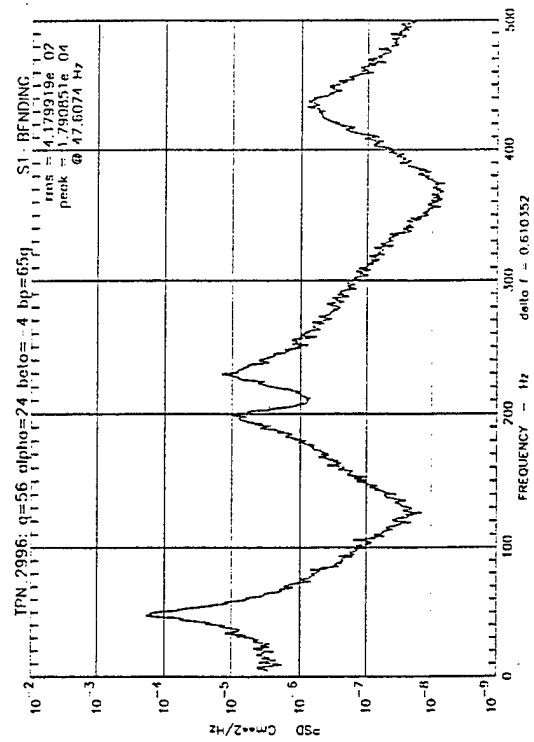
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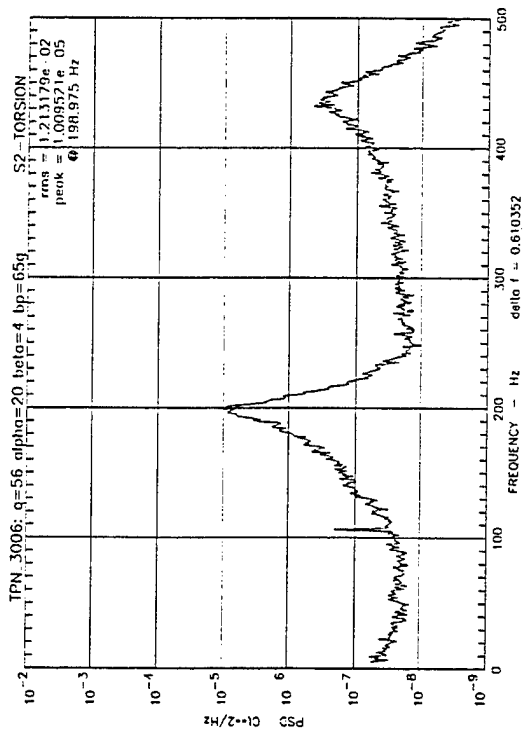
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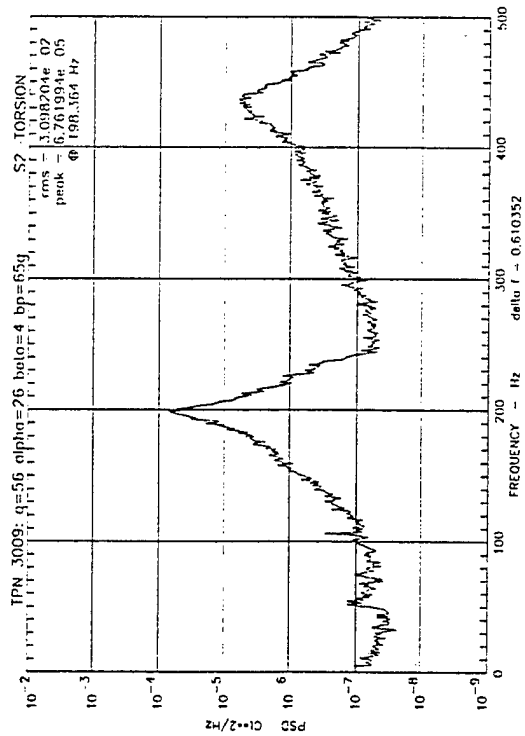
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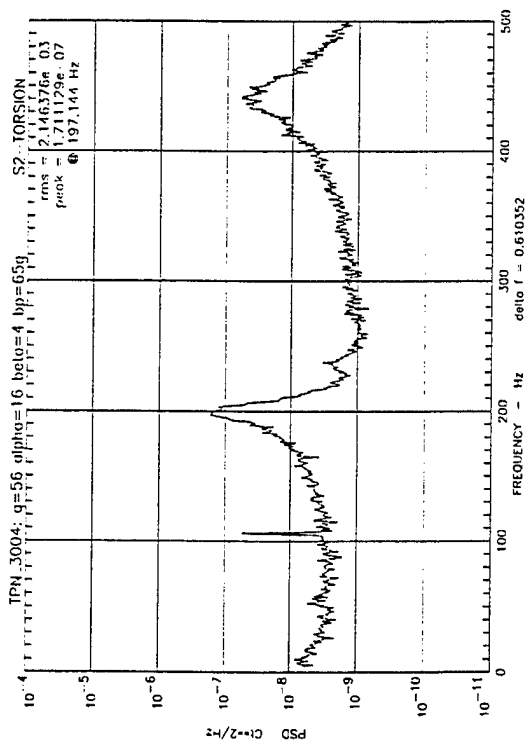
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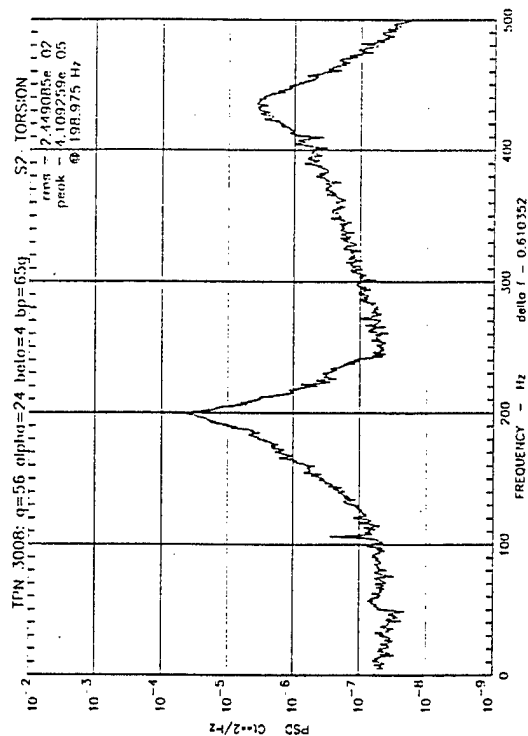
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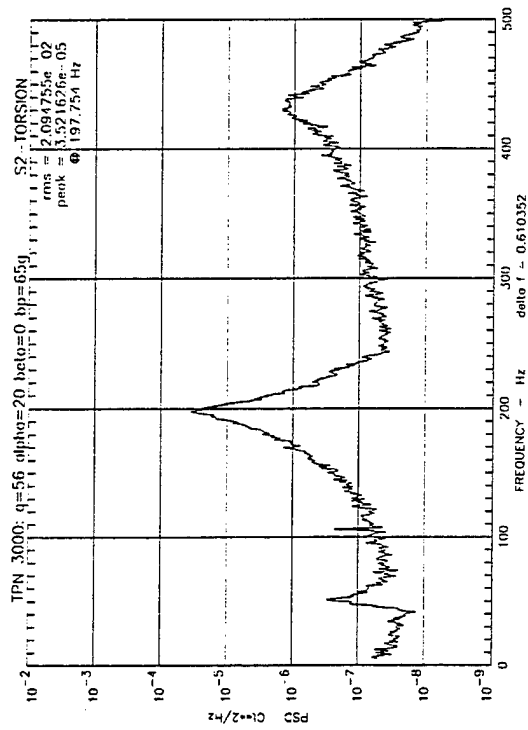
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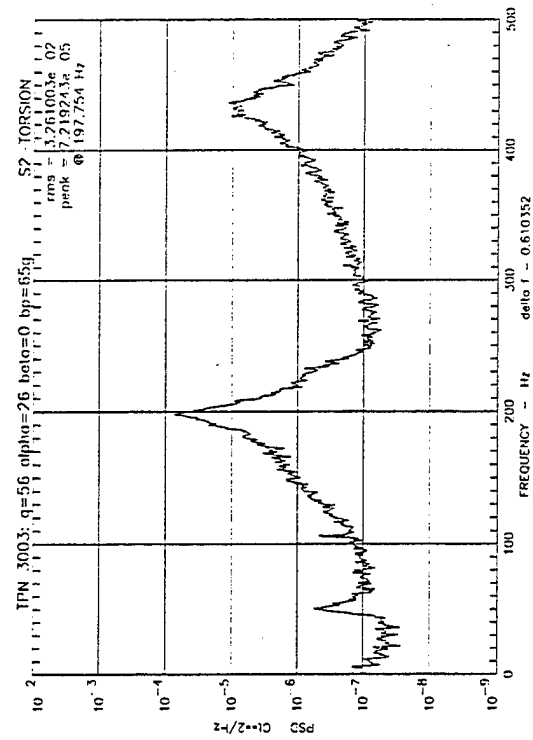
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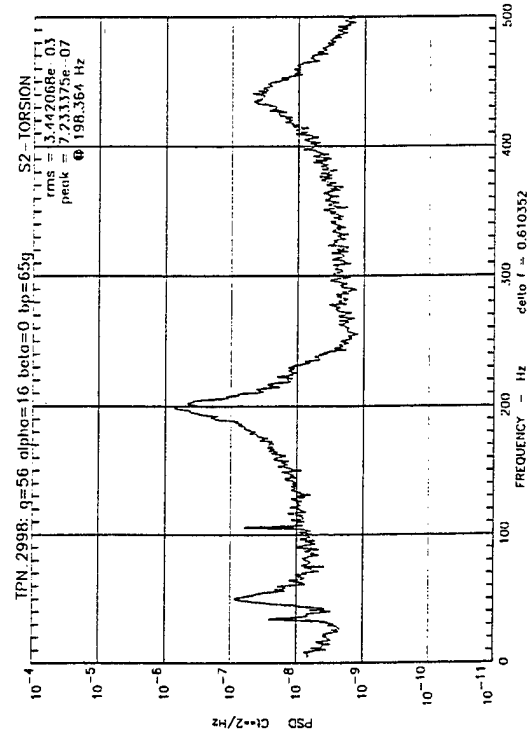
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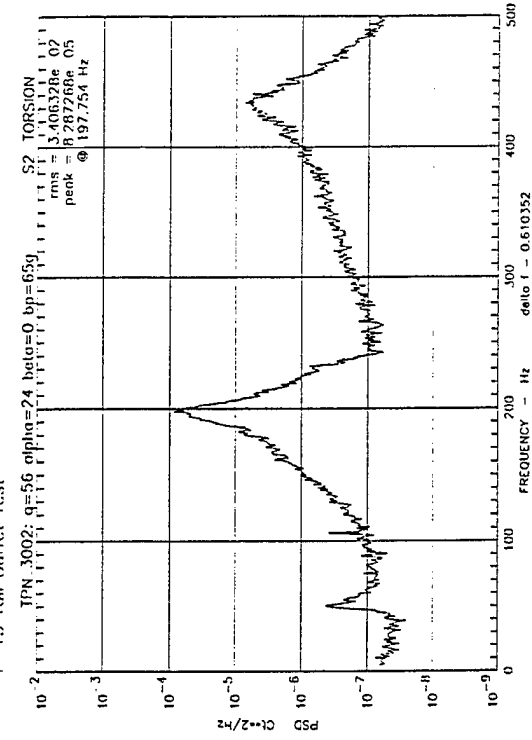
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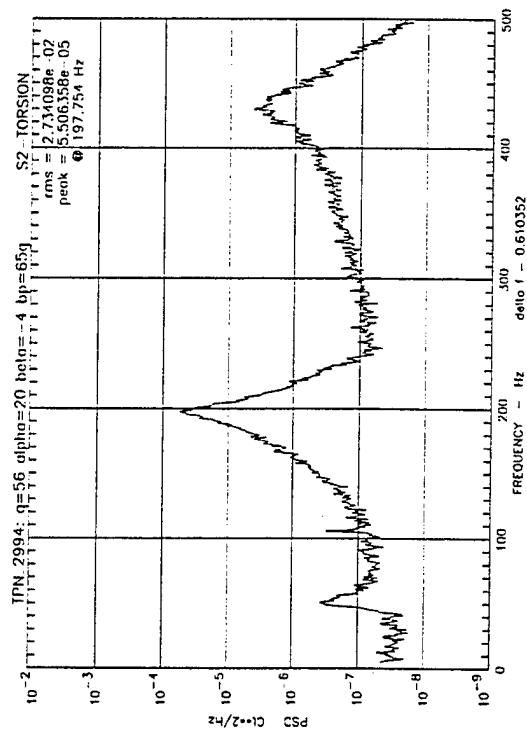
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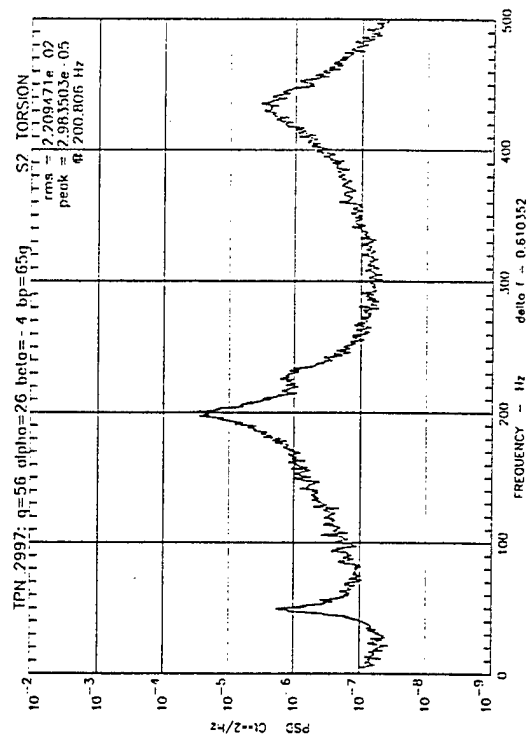
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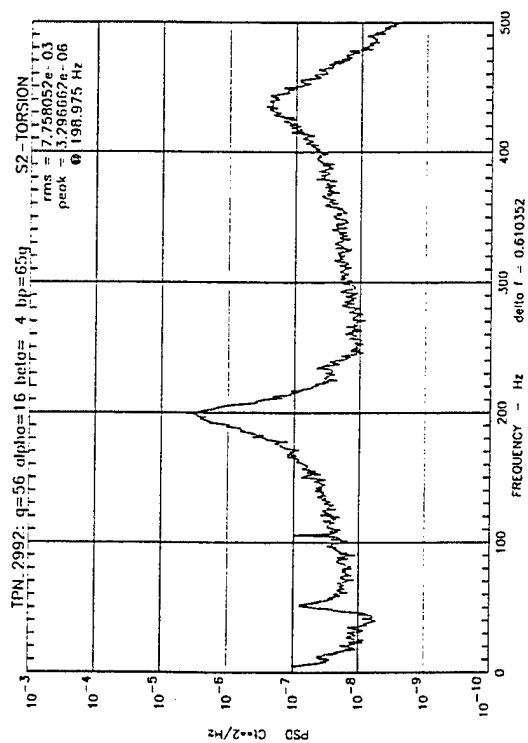
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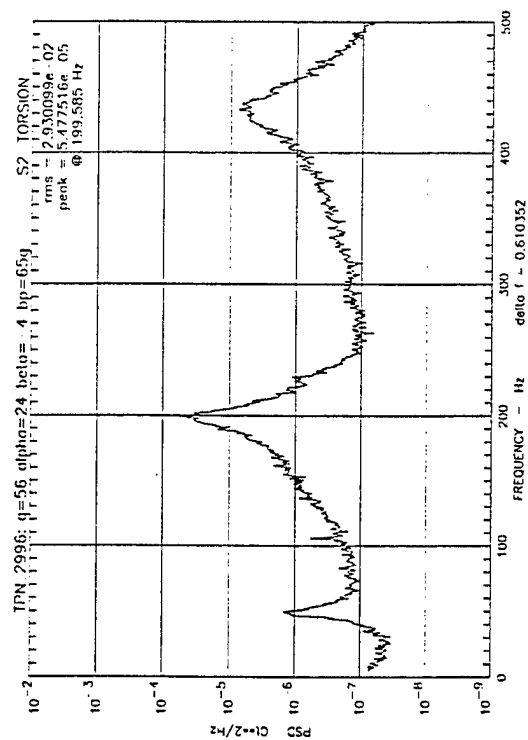
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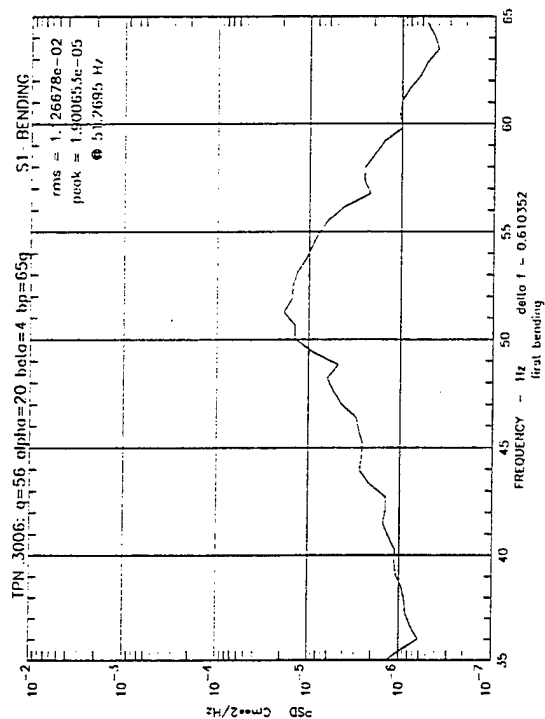
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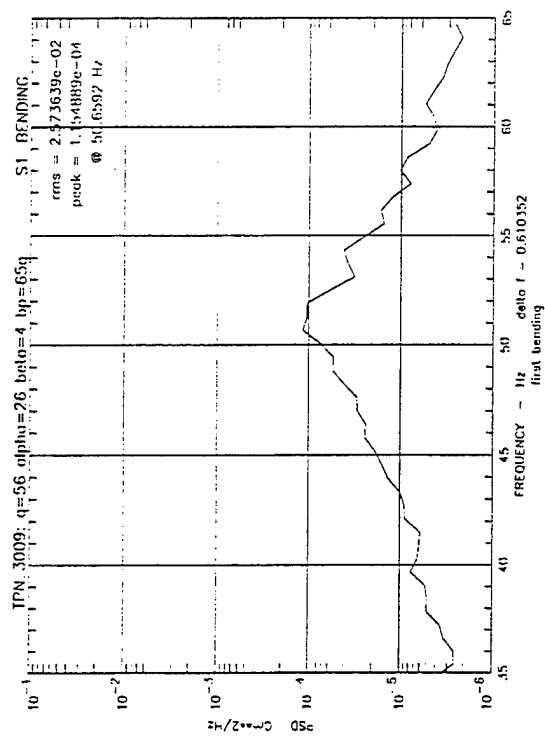
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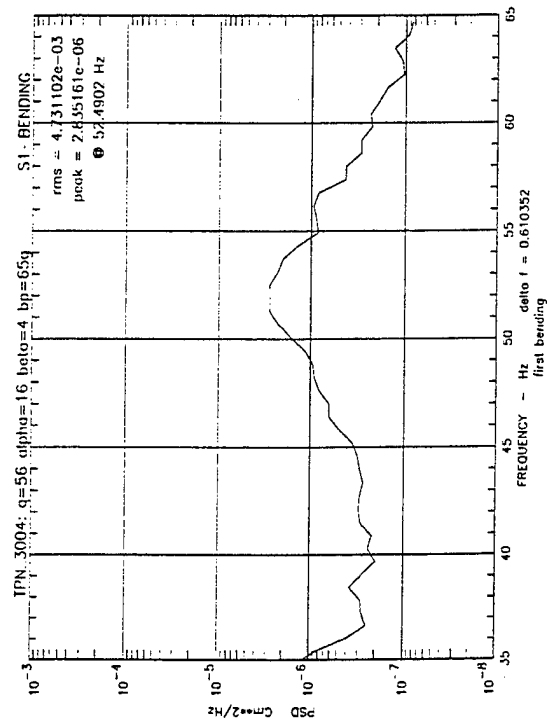
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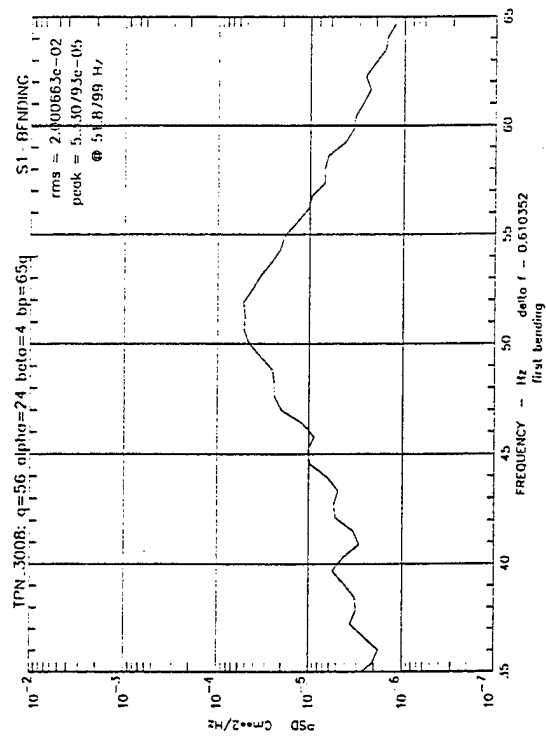
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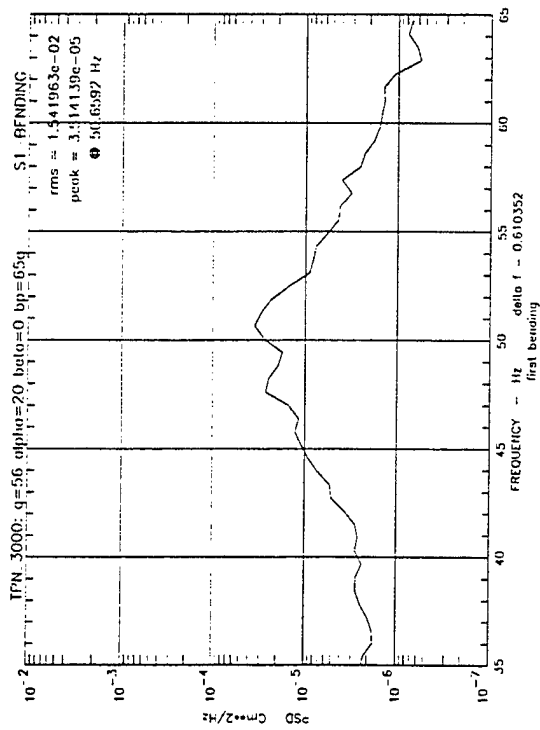
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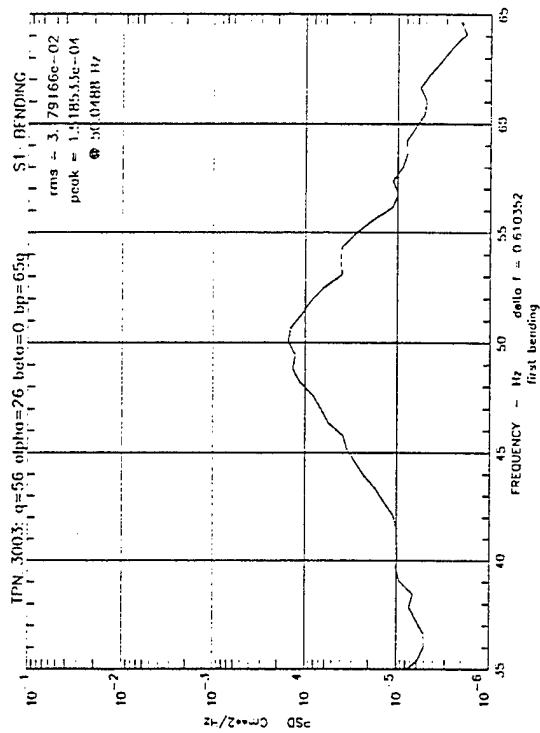
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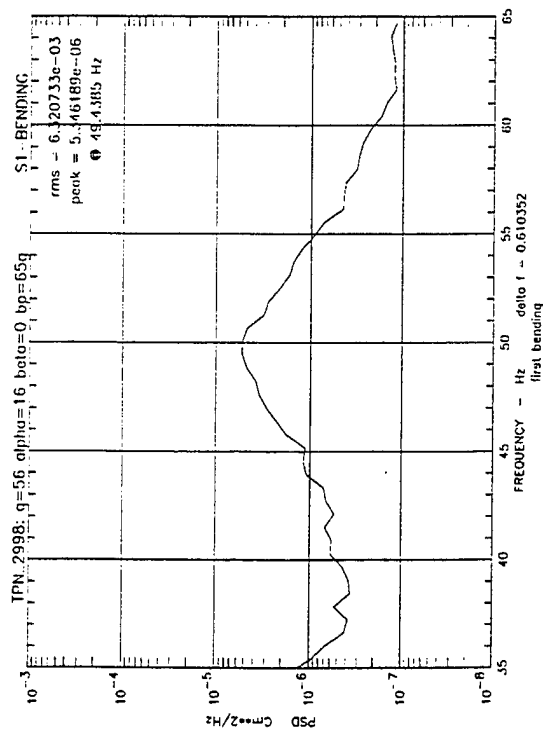
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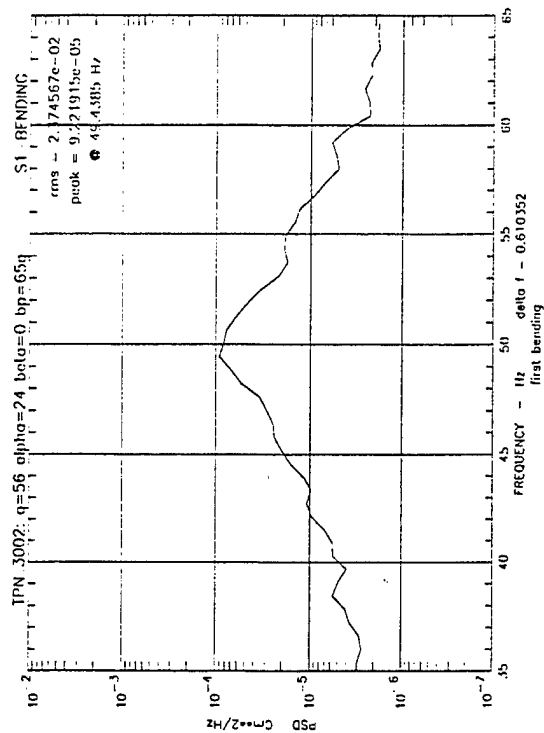
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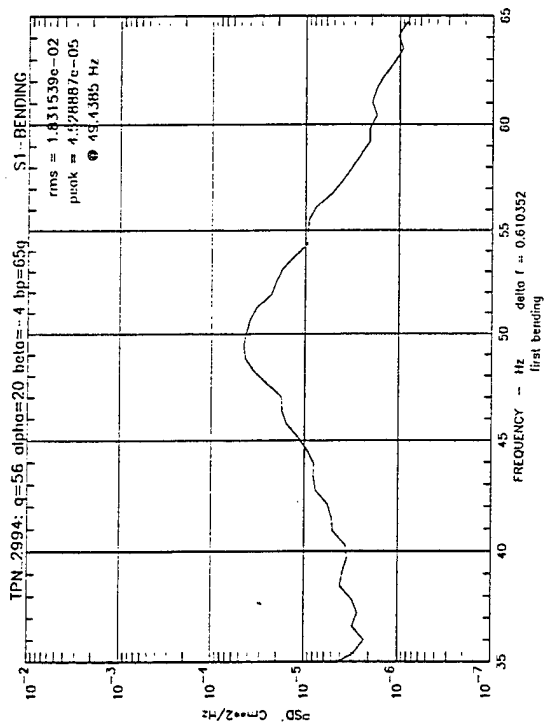
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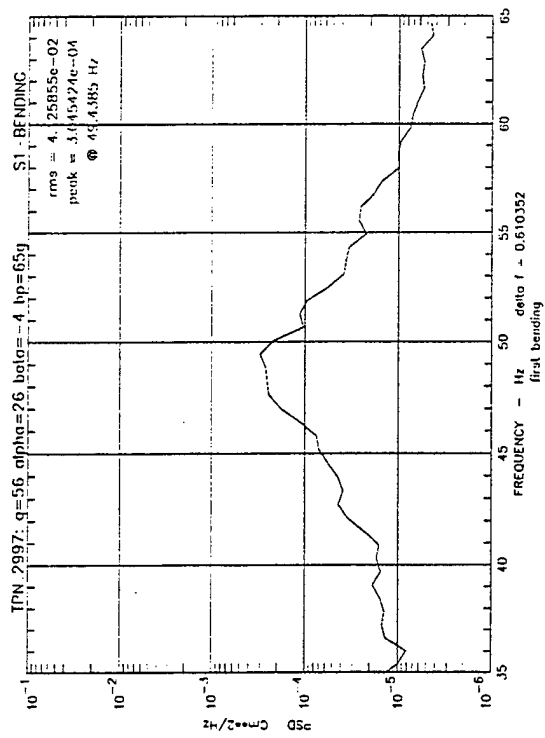
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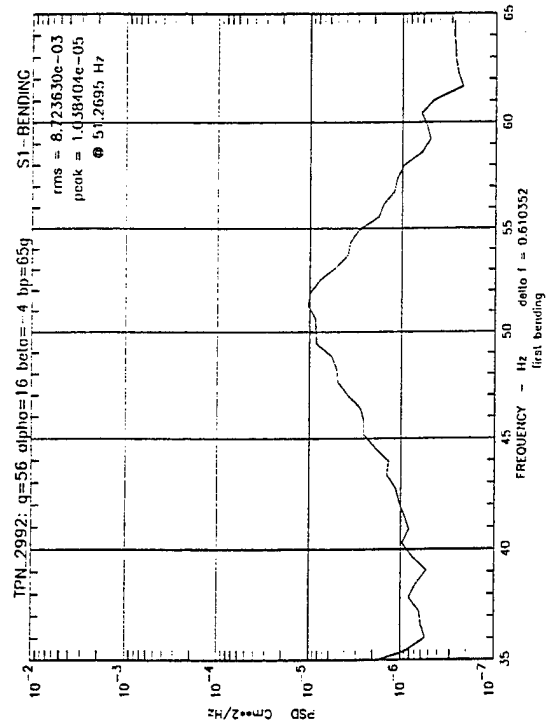
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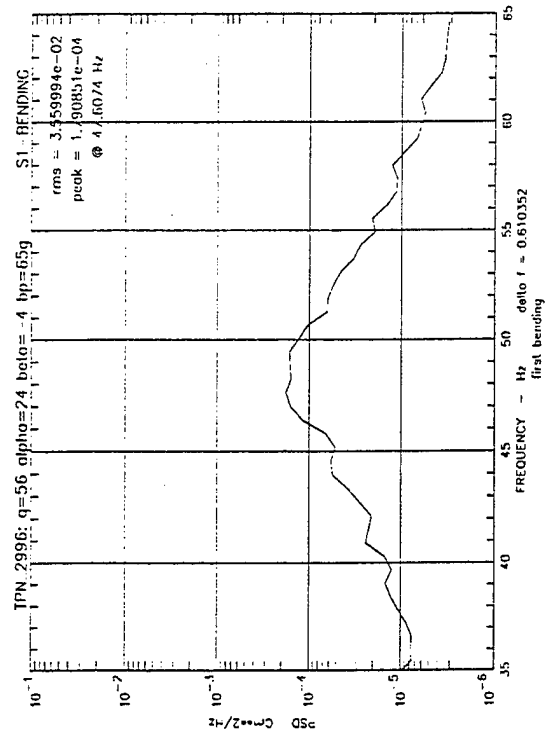
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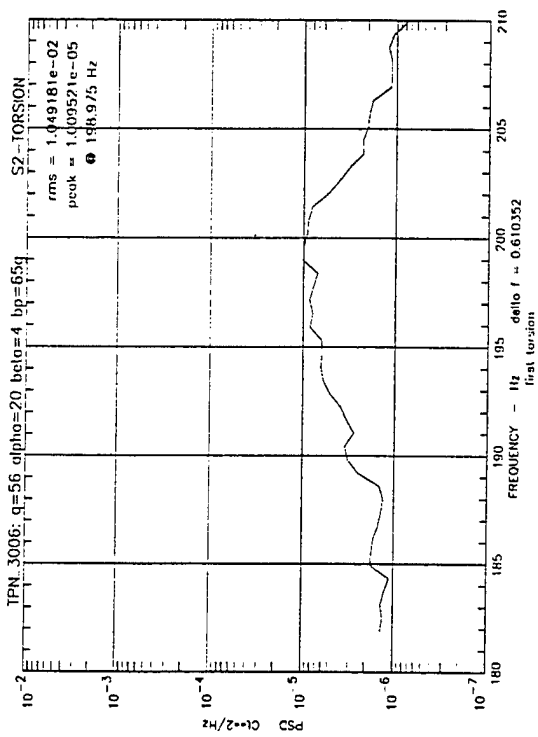
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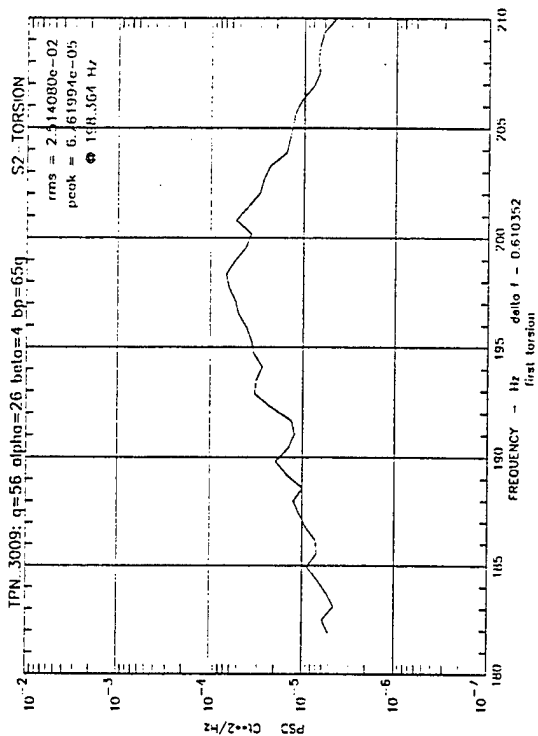
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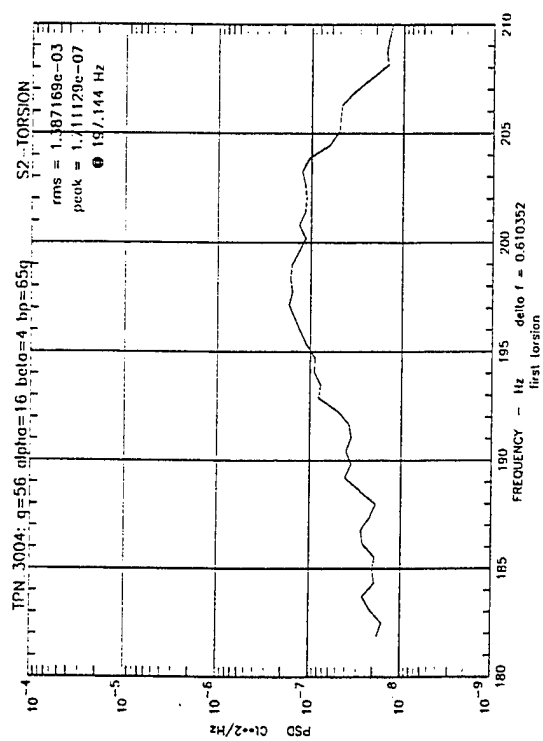
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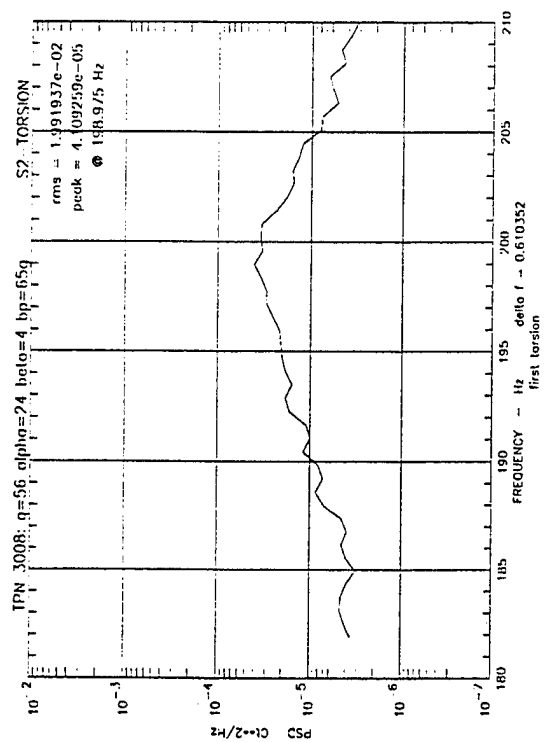
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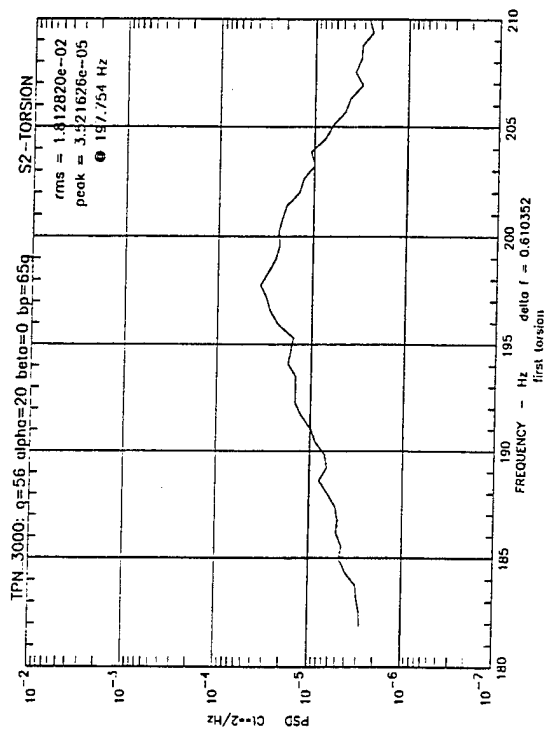
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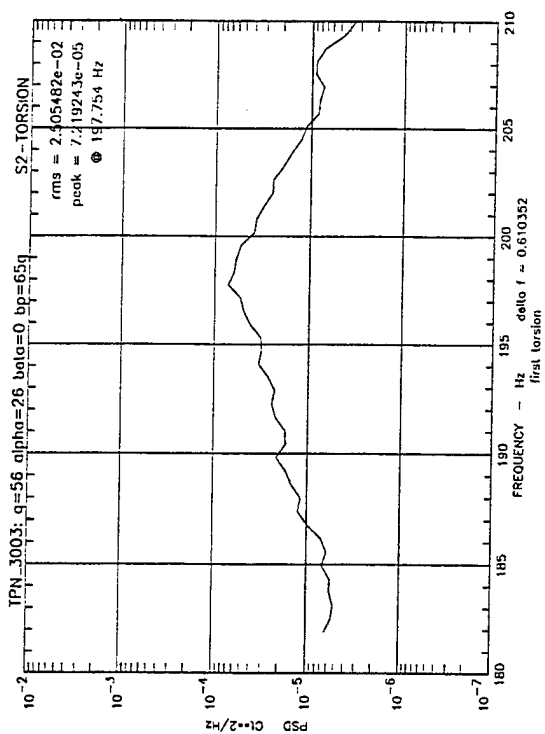
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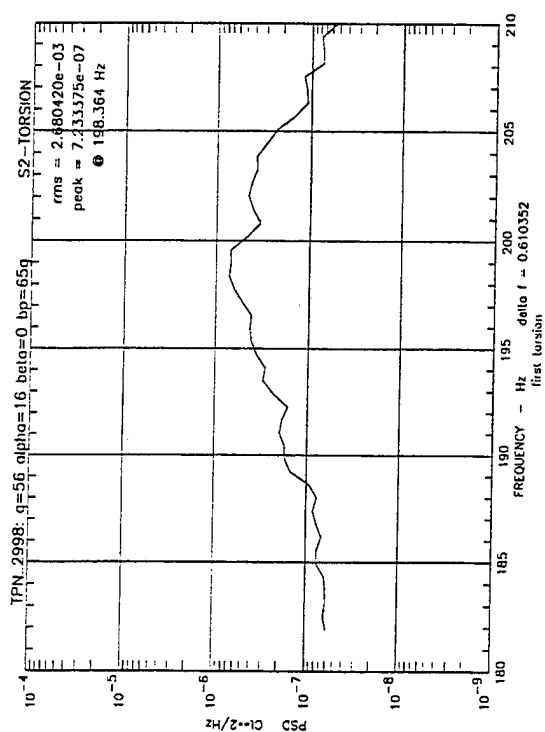
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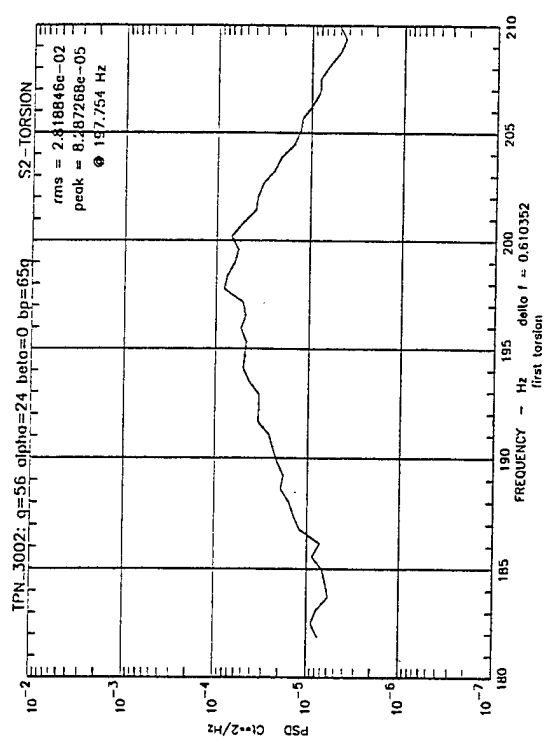
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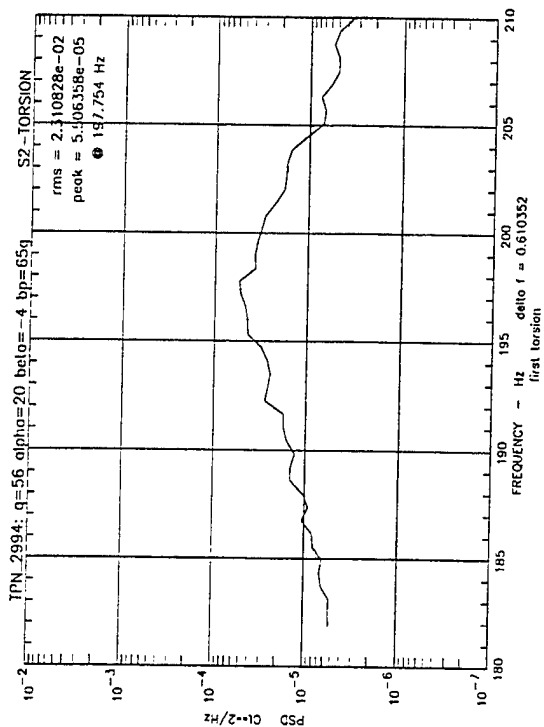
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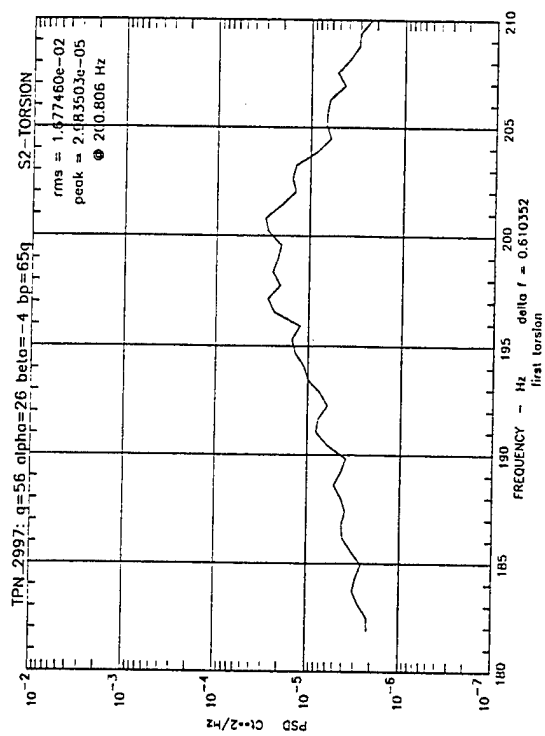
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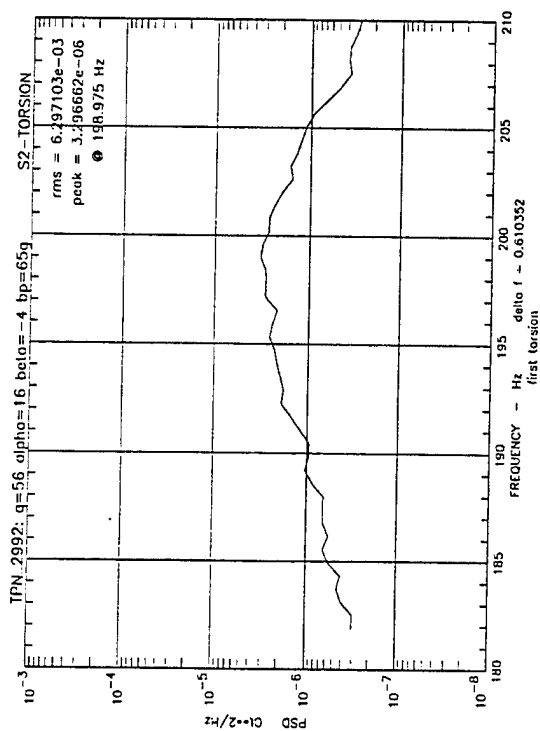
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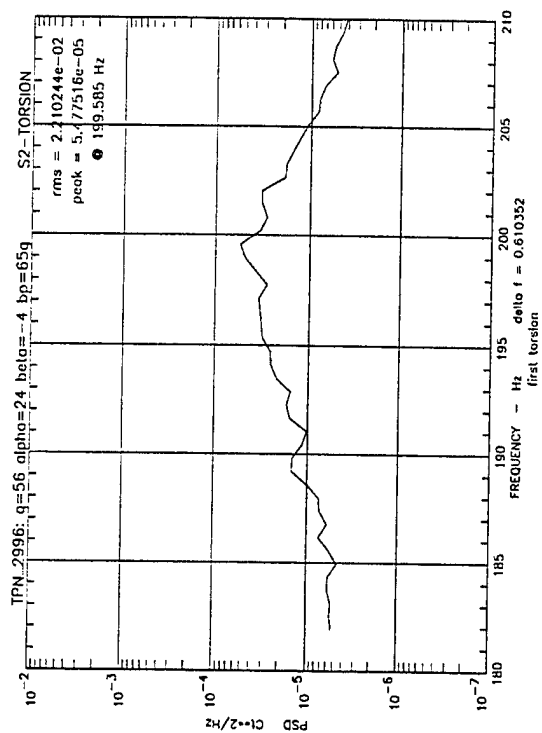
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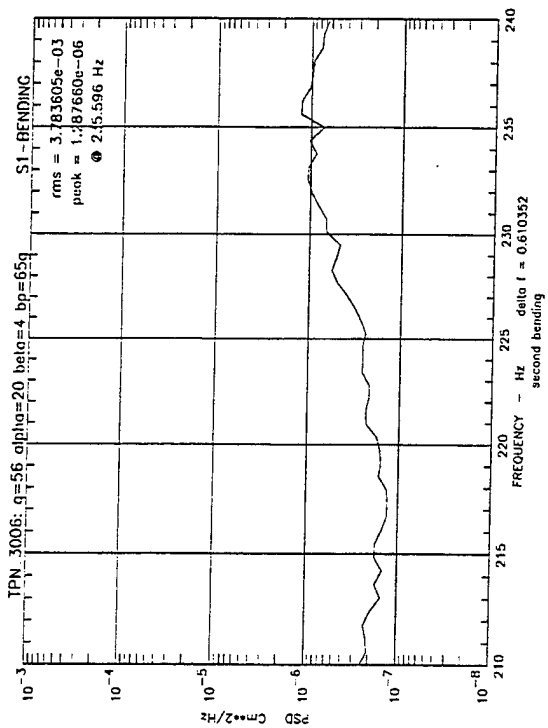
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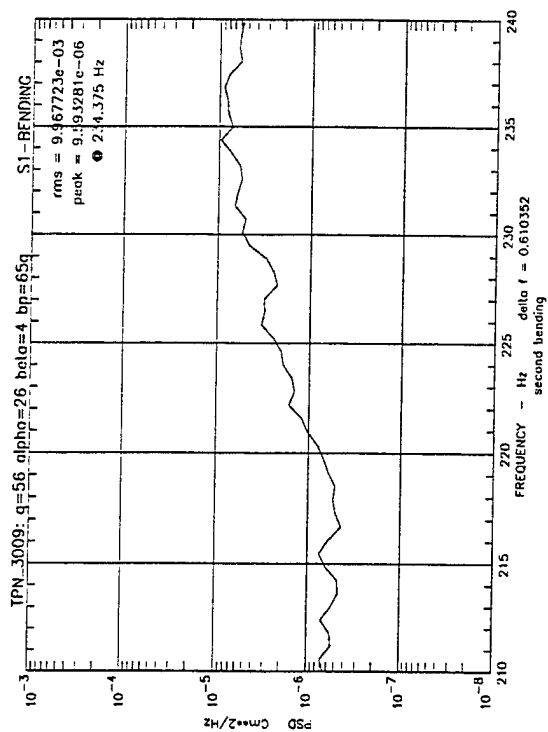
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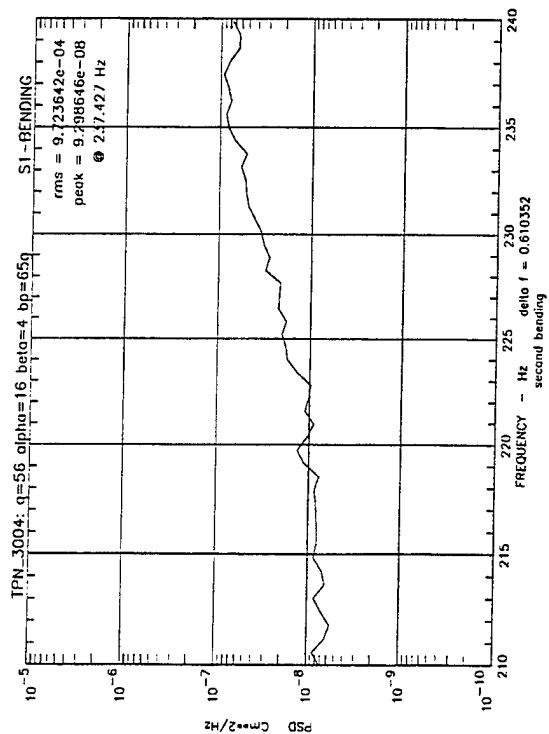
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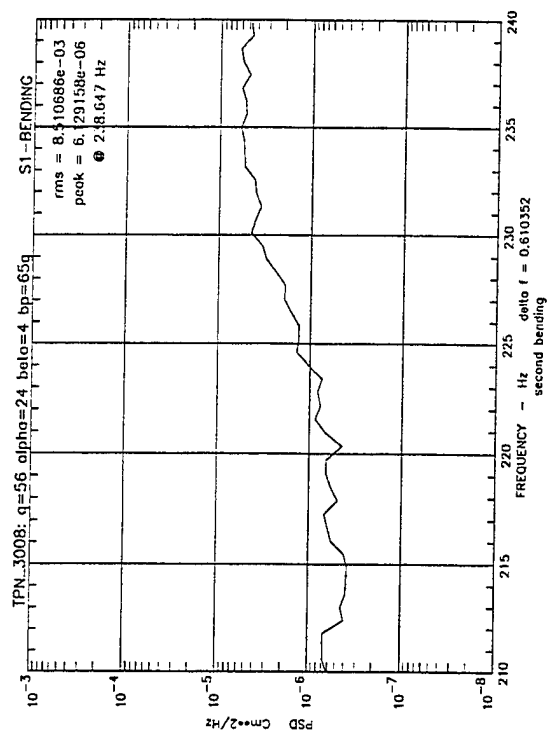
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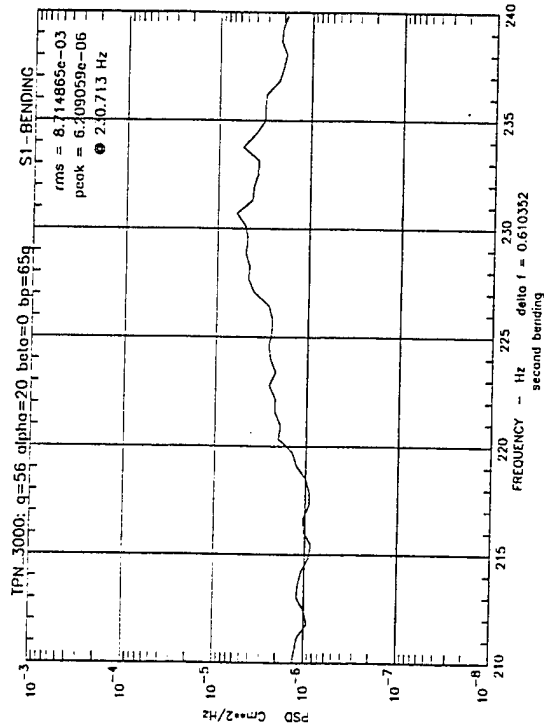
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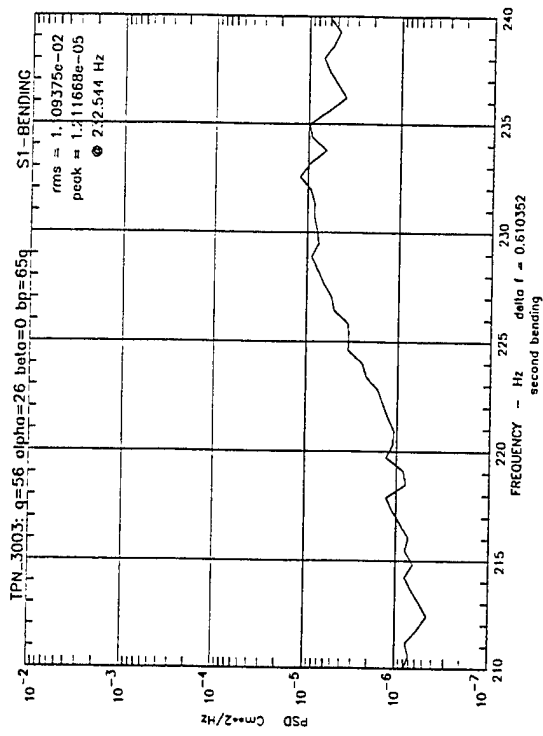
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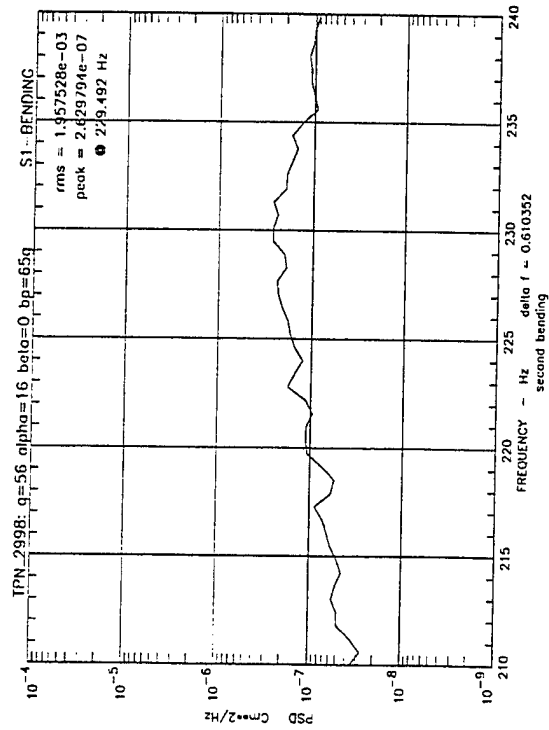
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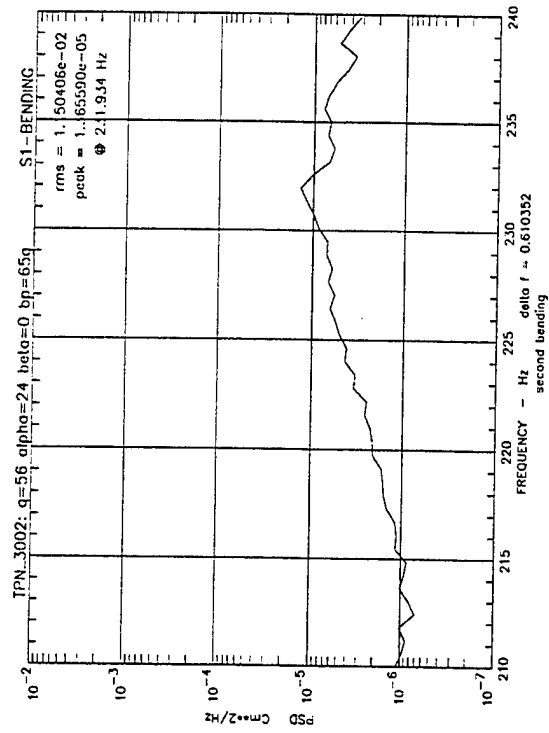
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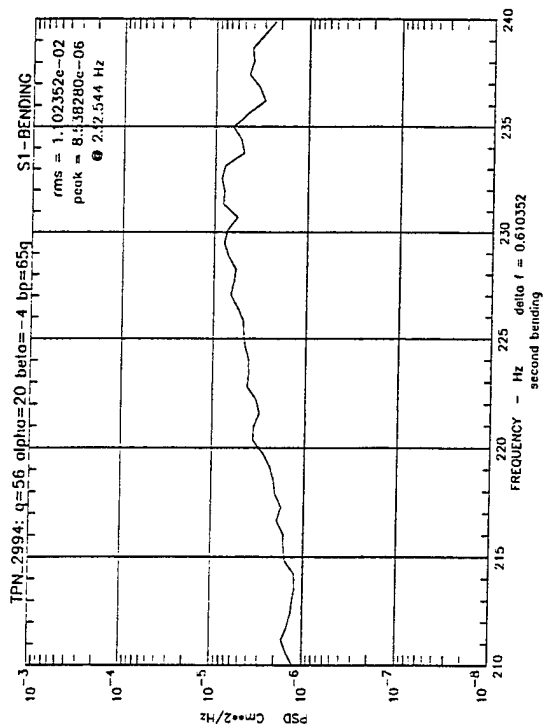
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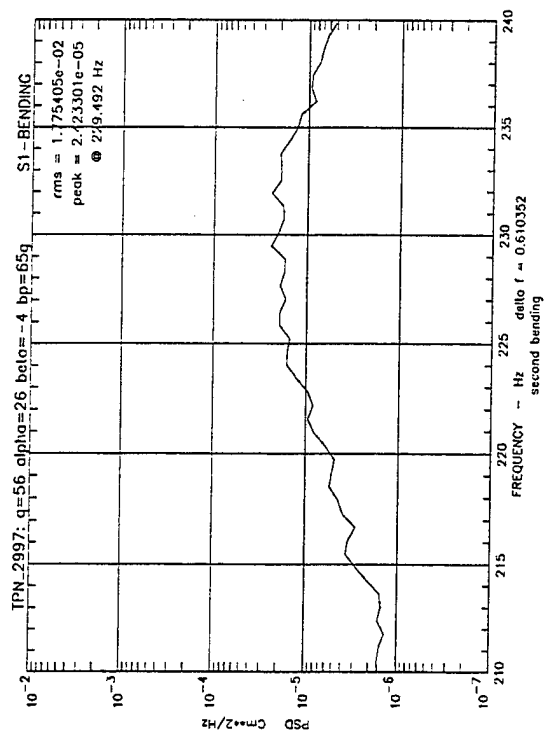
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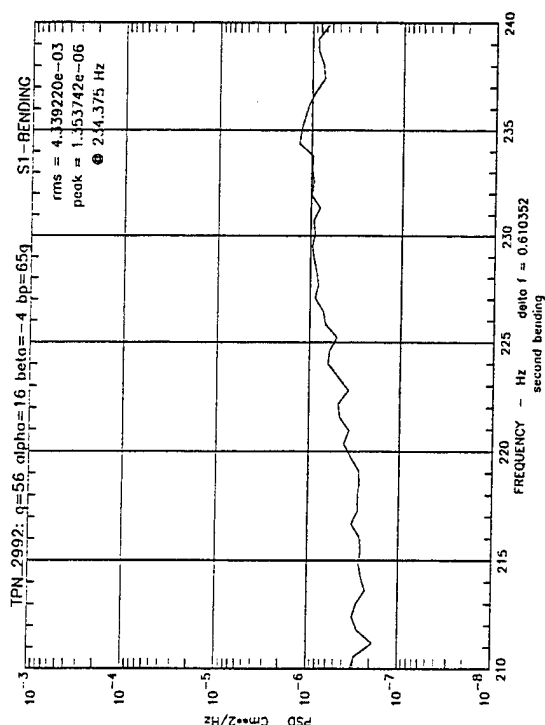
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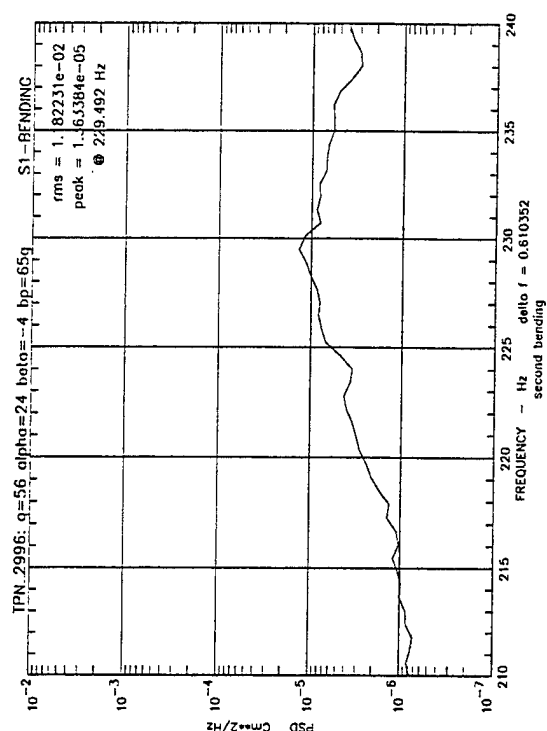
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F-15 Tail Buffet Test



F-15 Tail Buffet Test

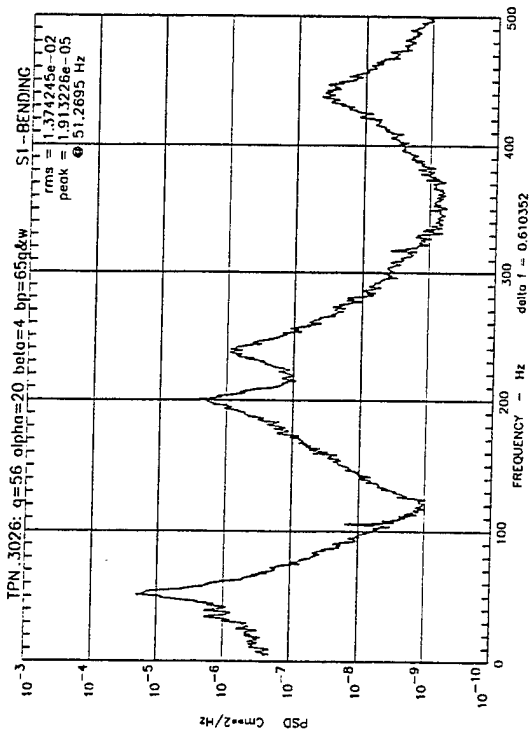


**FLEXIBLE TAIL RESPONSE
NON DIMENSIONAL BENDING AND TORSION
PSD GRAPHS**

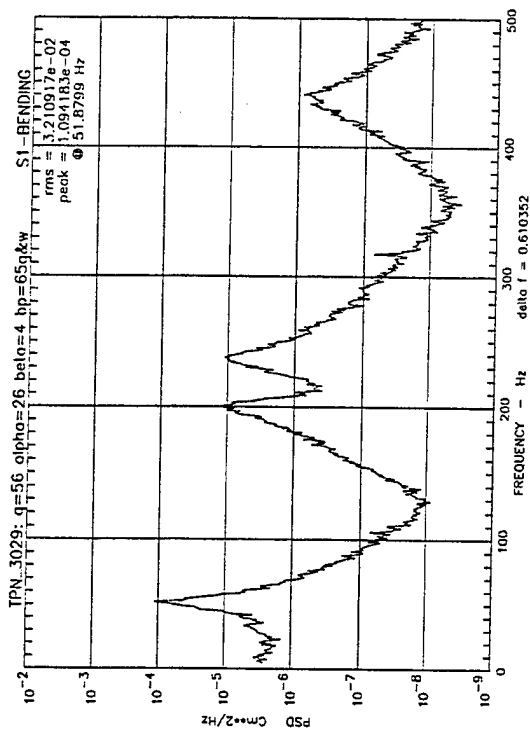
Q= 56PSF

3.1.1.3 GBP = 65PSI, WBP = 65 PSI, BETA = 0, +4, -4 DEG, ALPHA=16....28 DEG

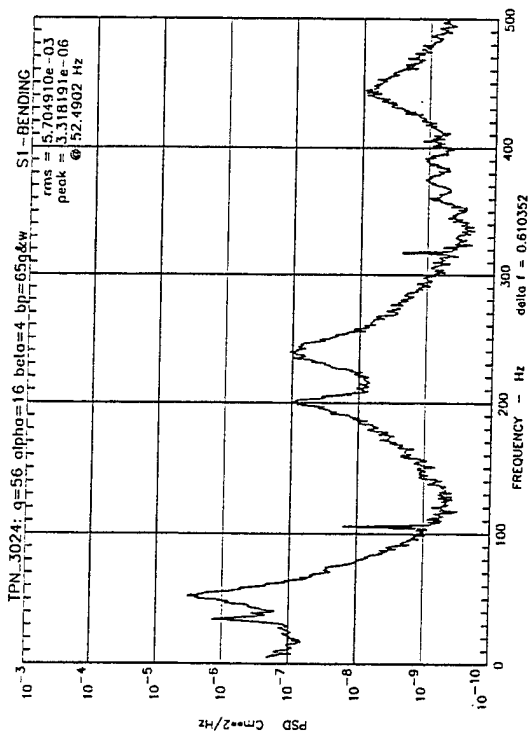
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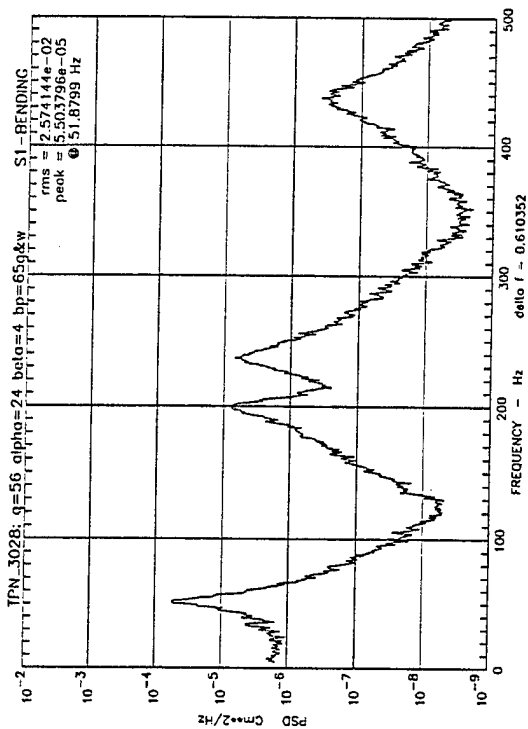
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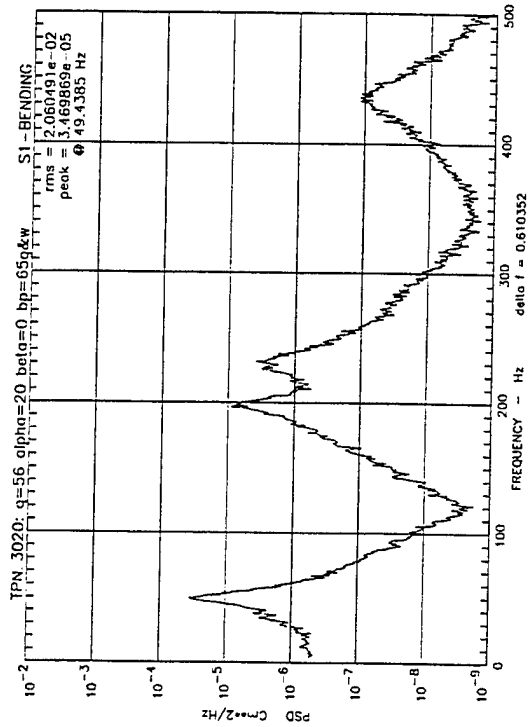
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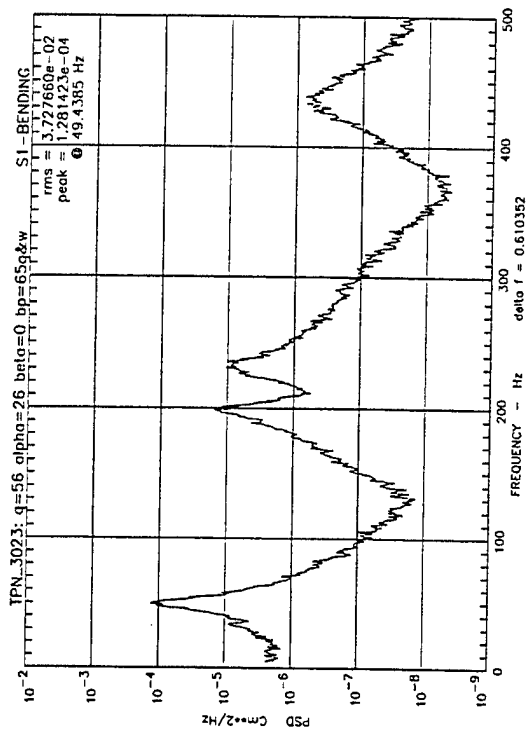
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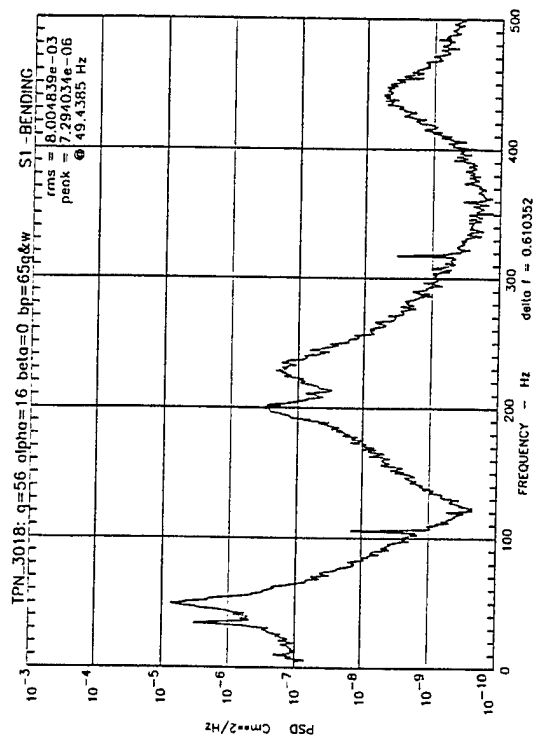
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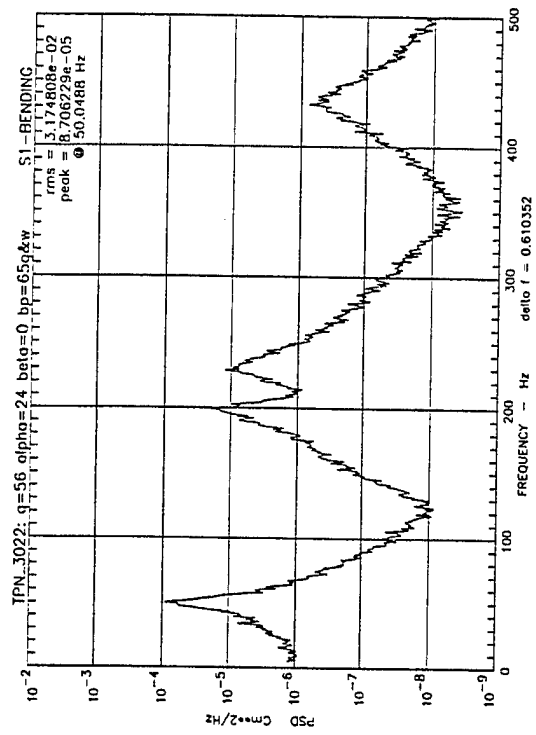
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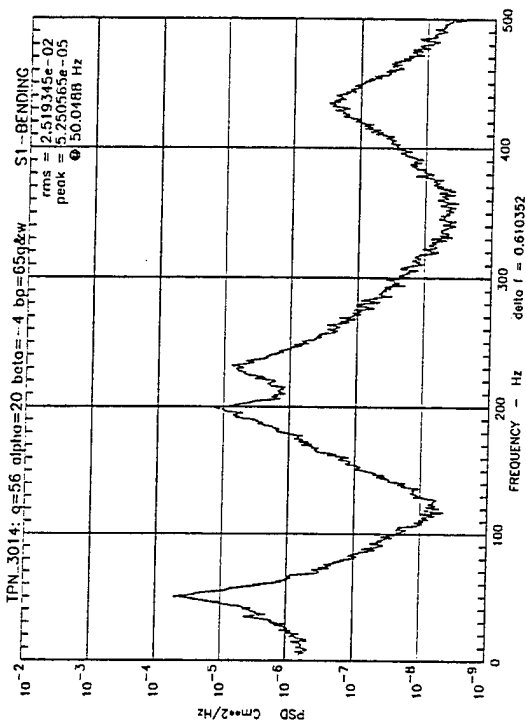
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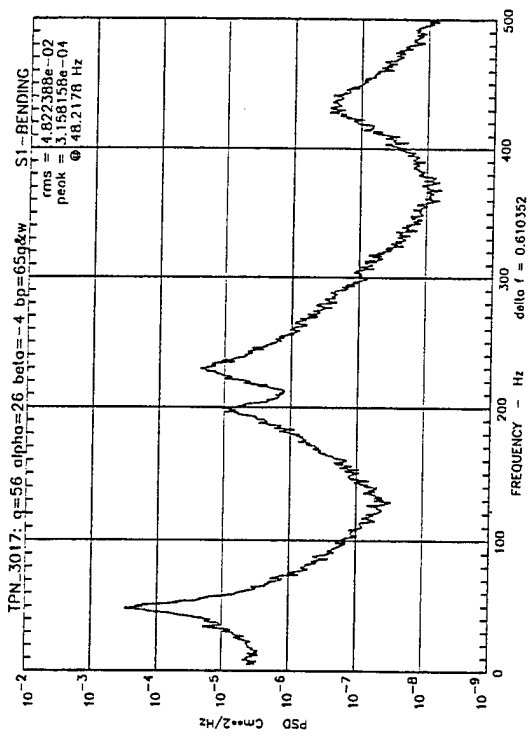
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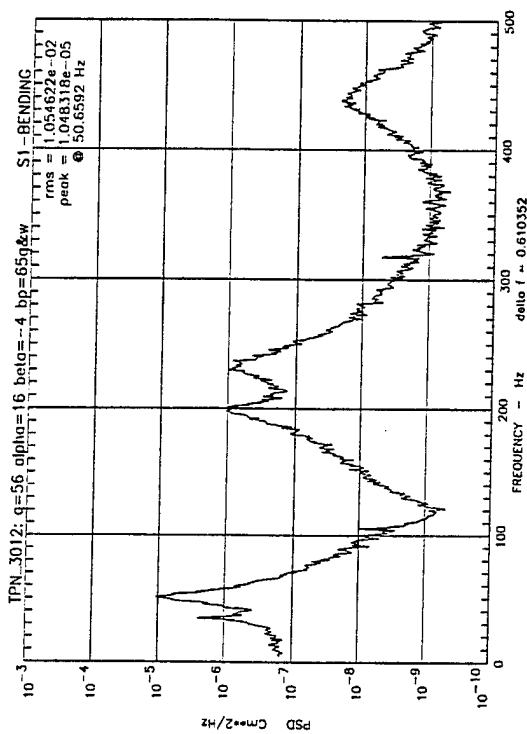
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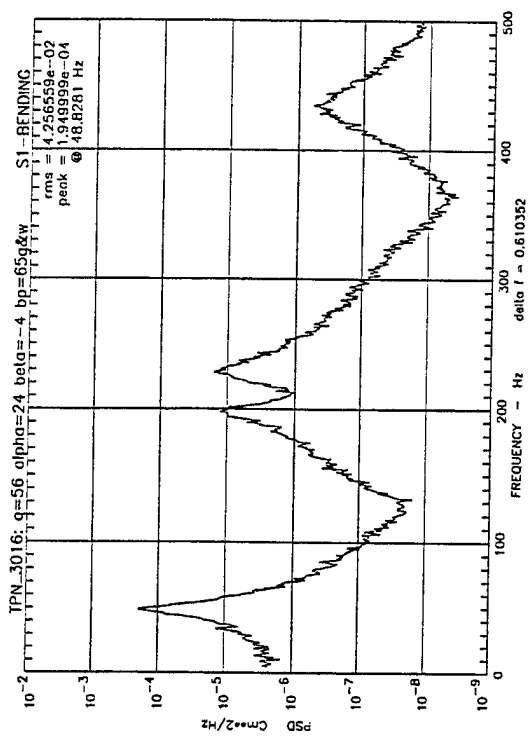
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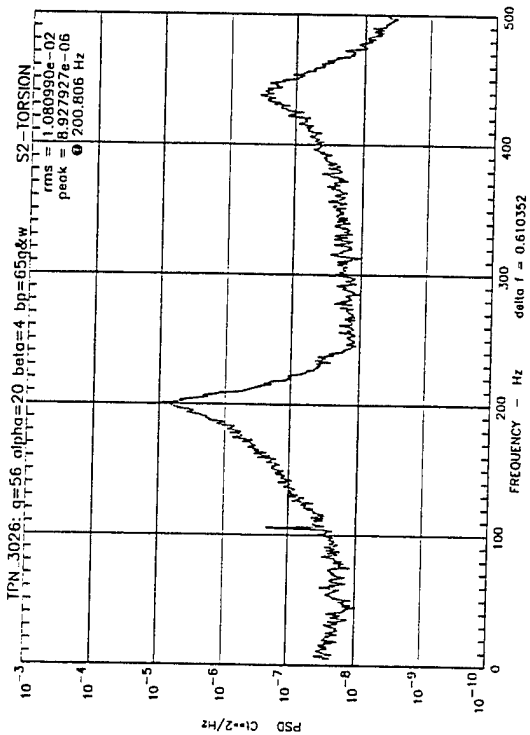
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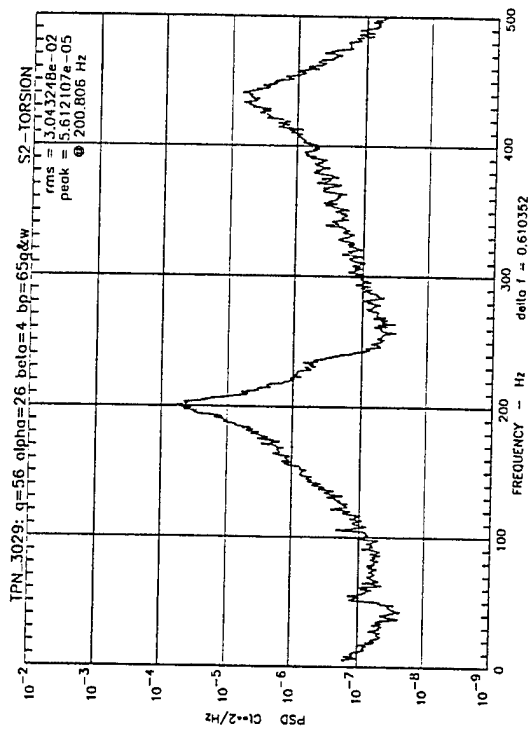
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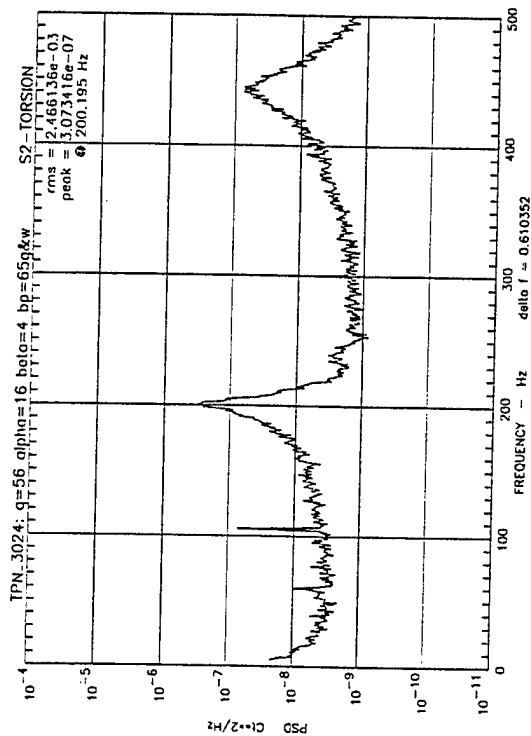
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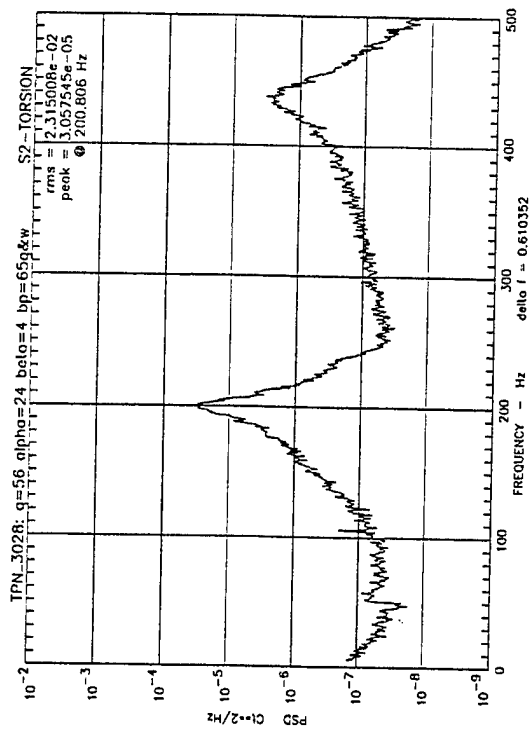
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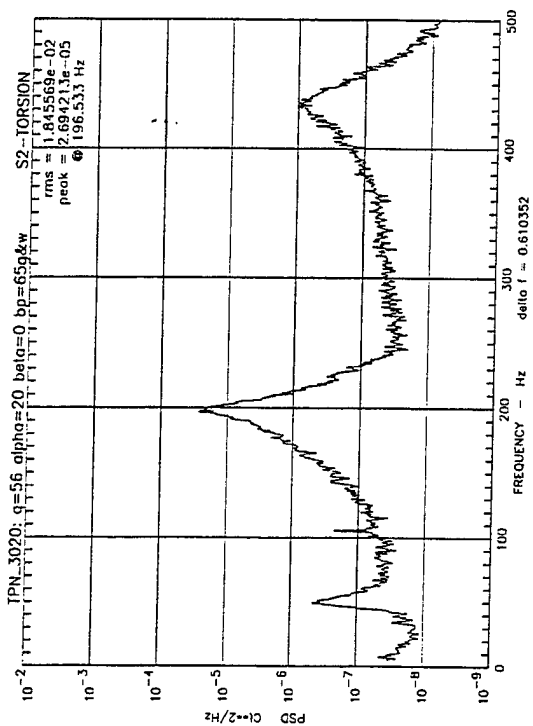
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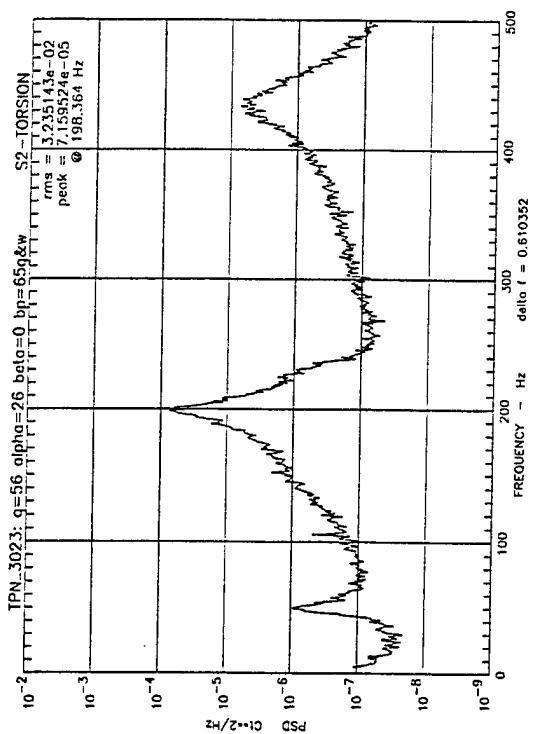
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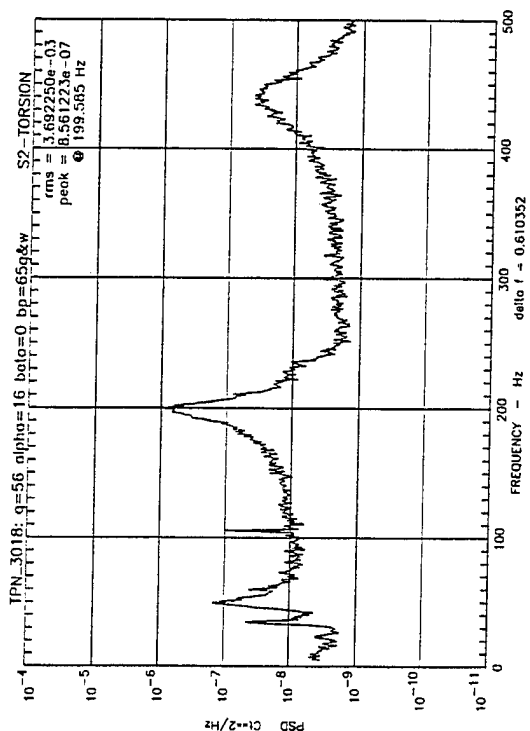
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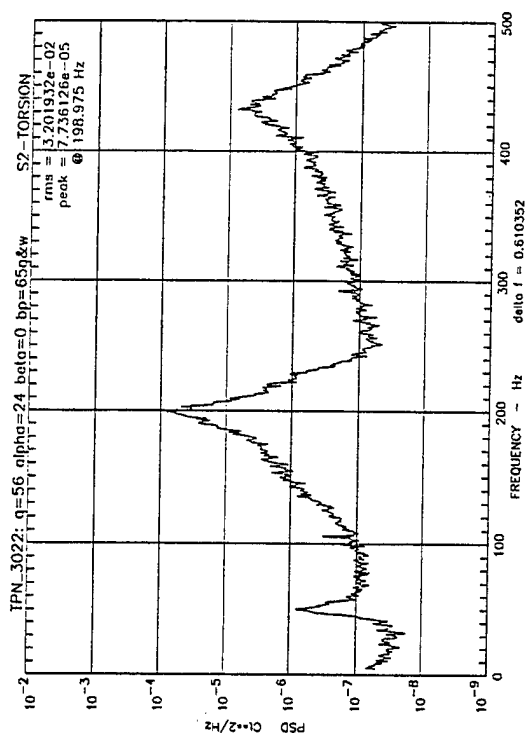
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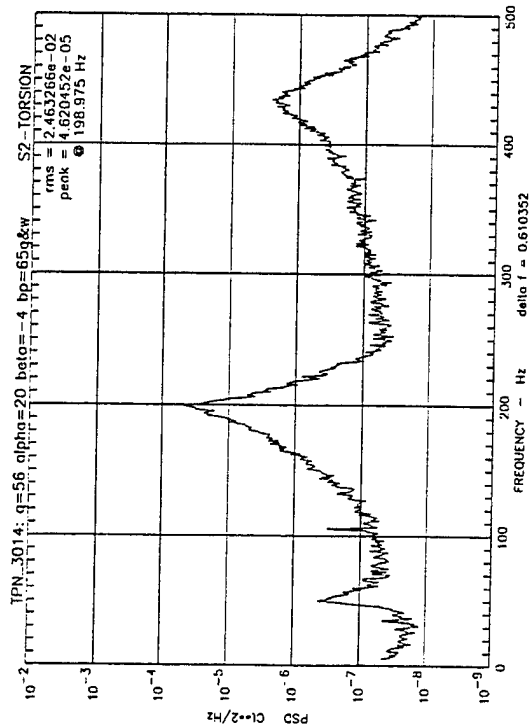
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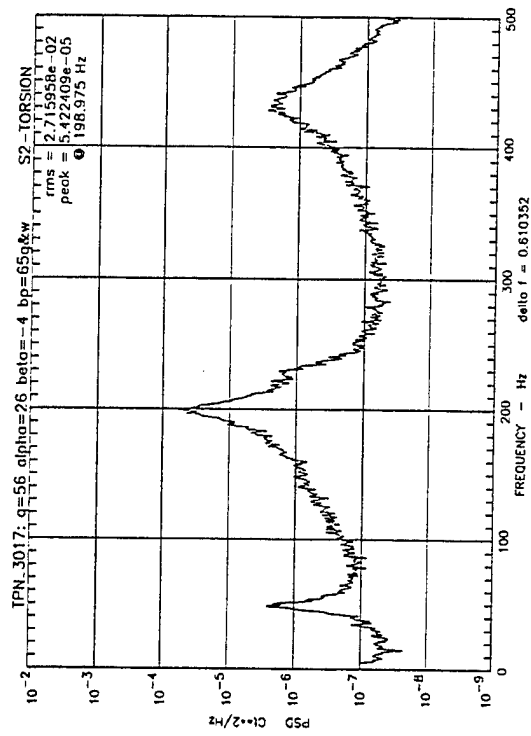
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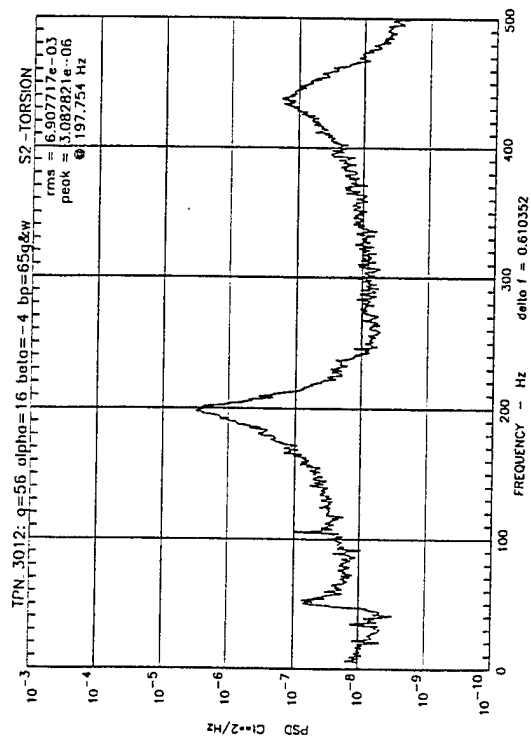
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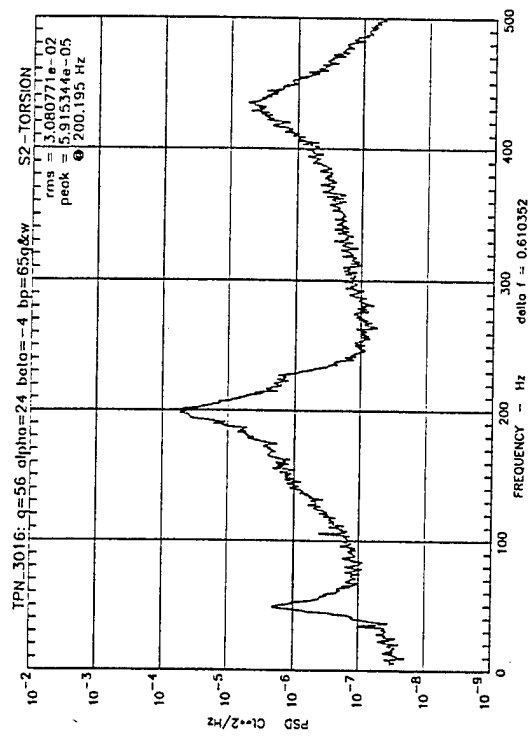
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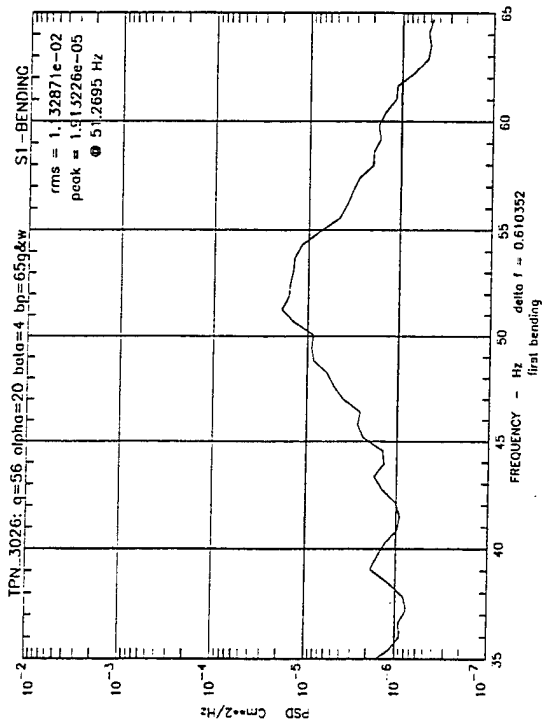
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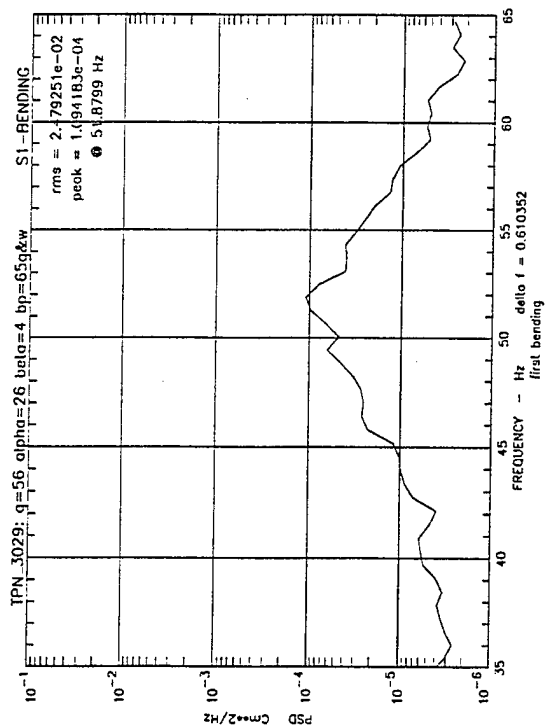
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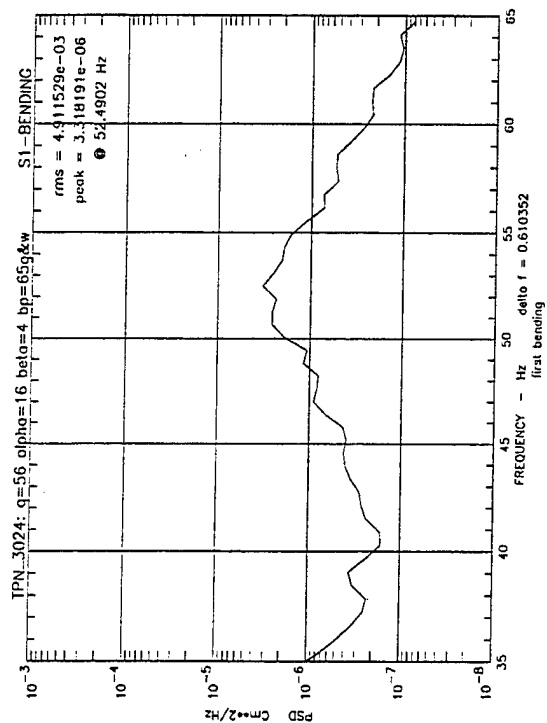
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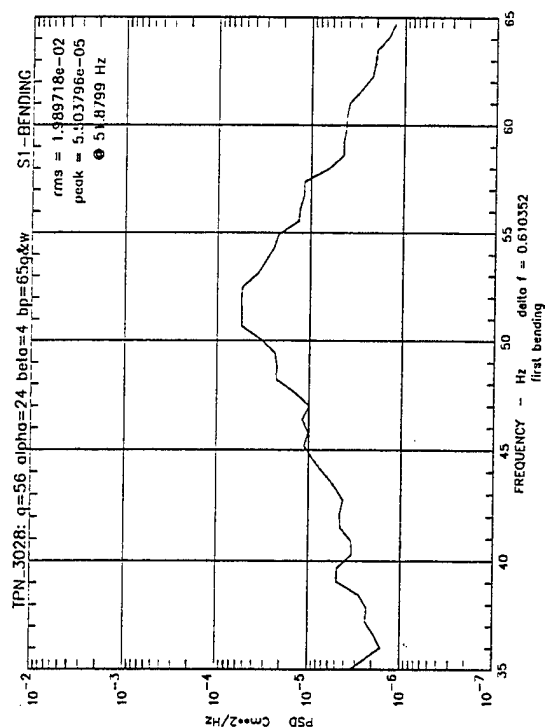
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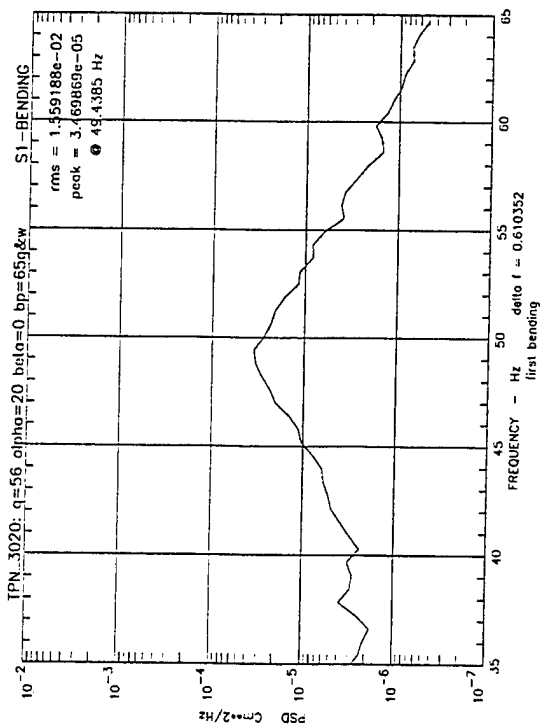
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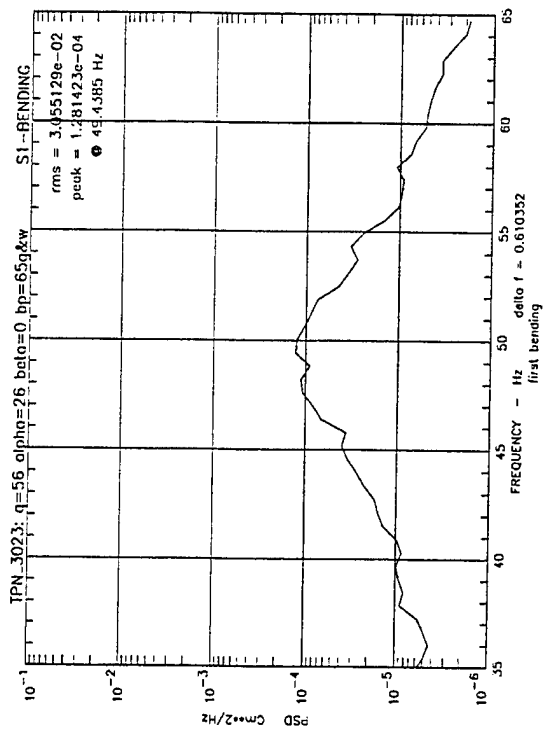
F-15 Tail Buffet Test



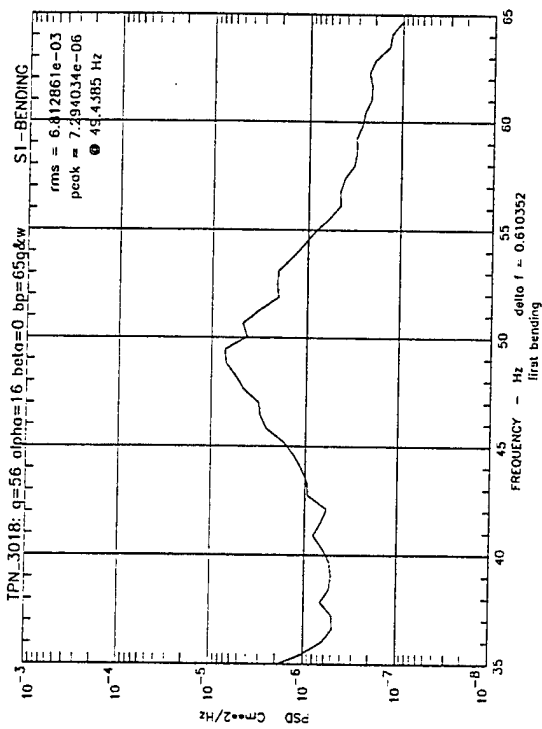
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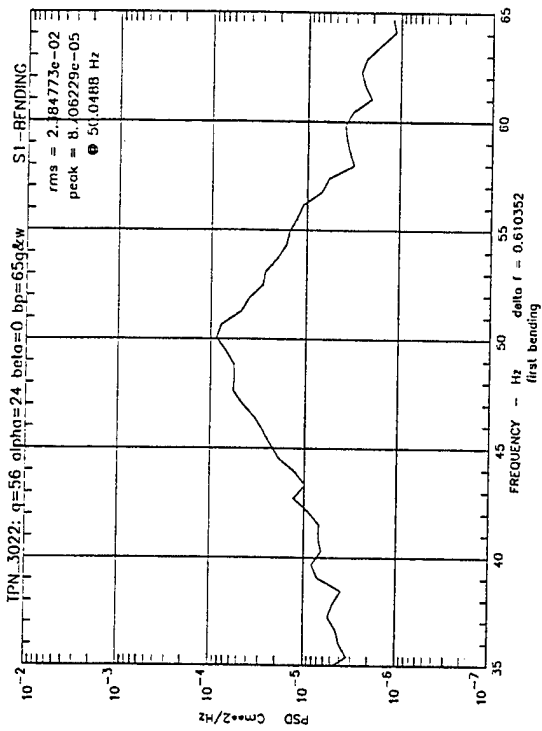
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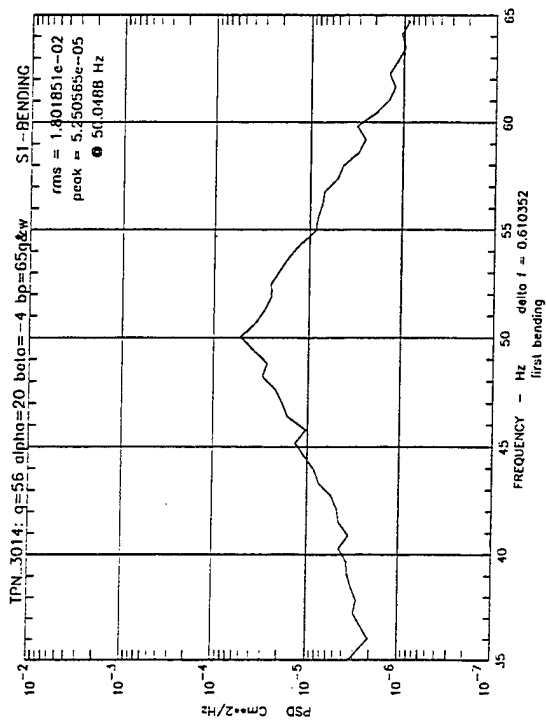
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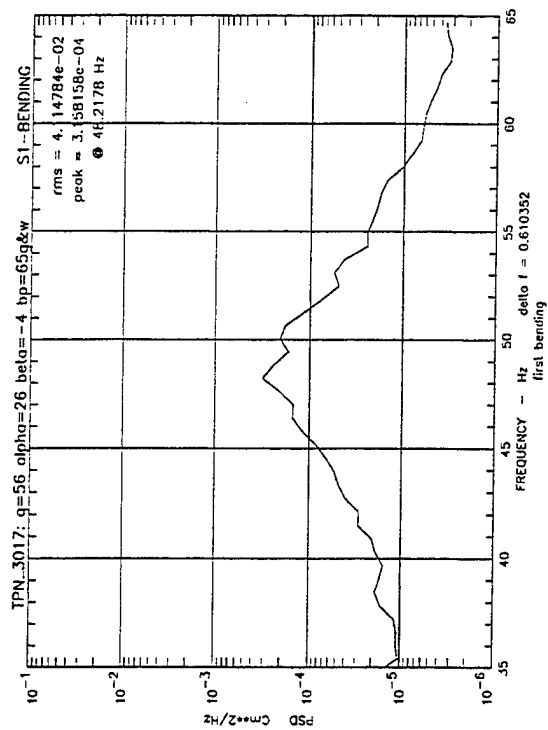
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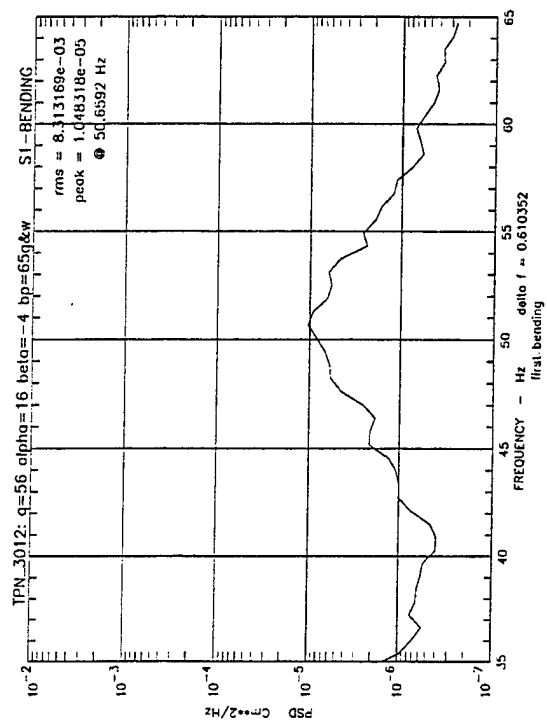
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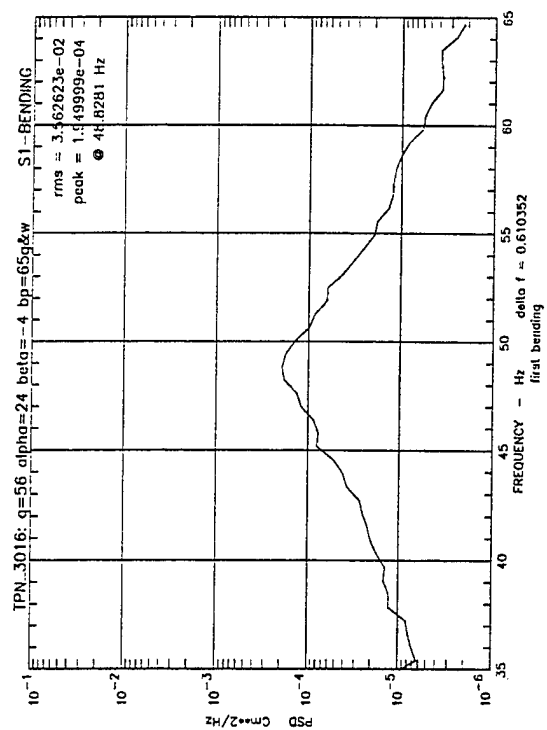
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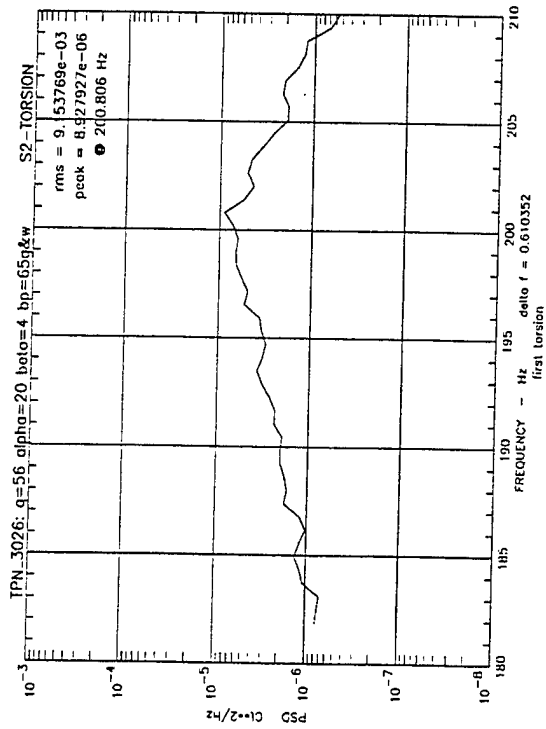
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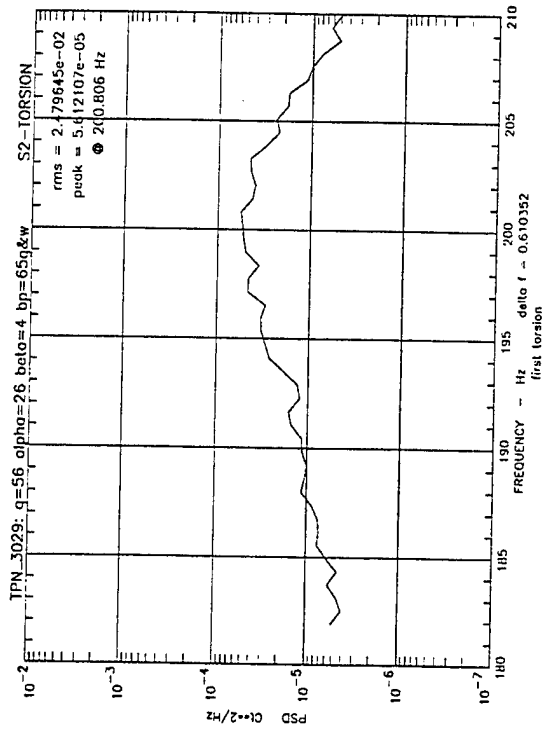
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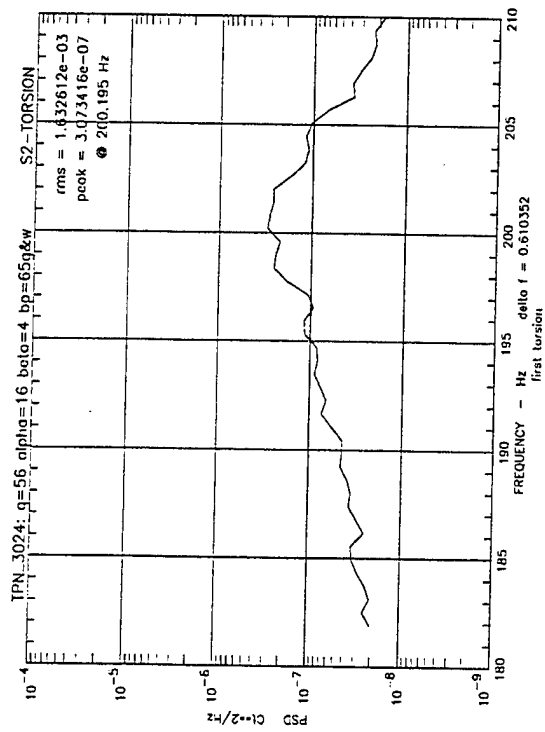
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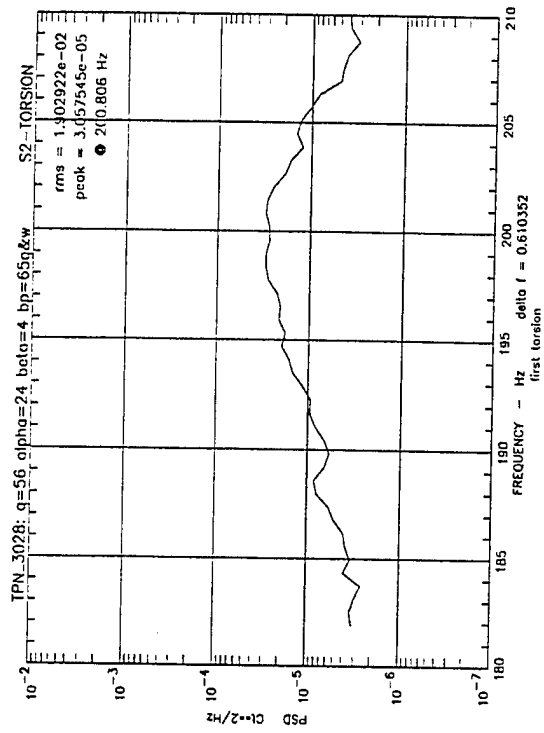
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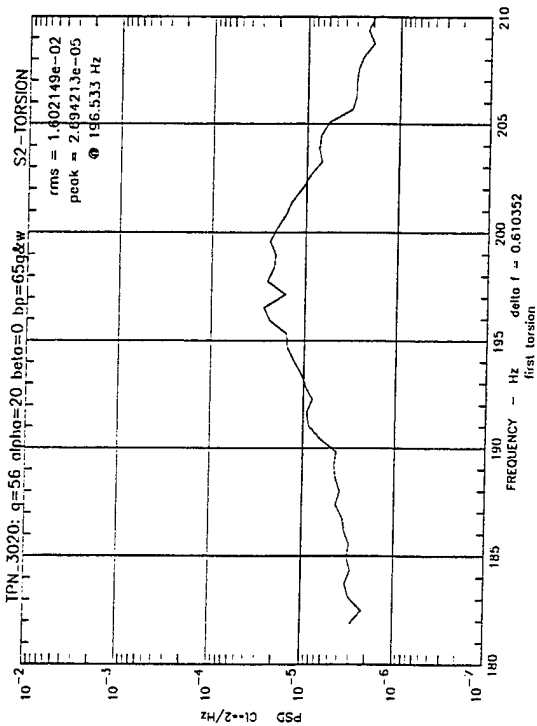
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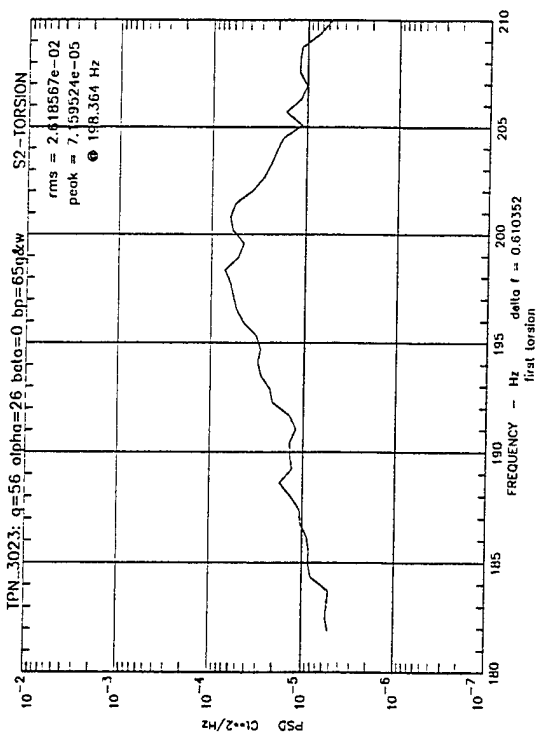
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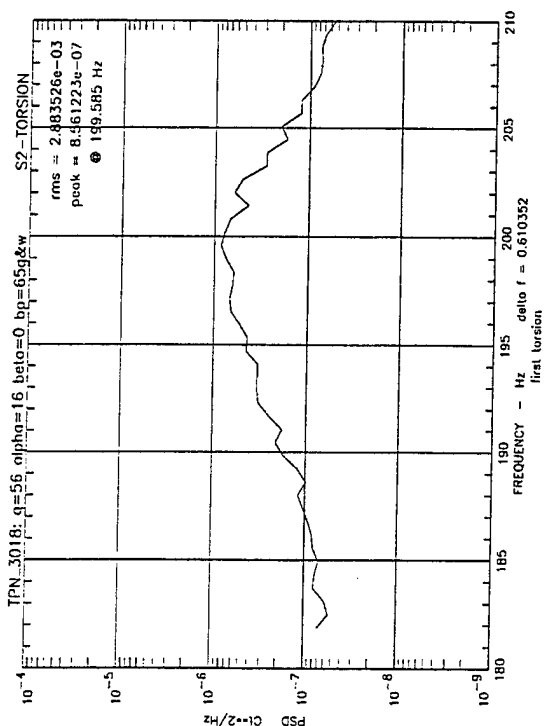
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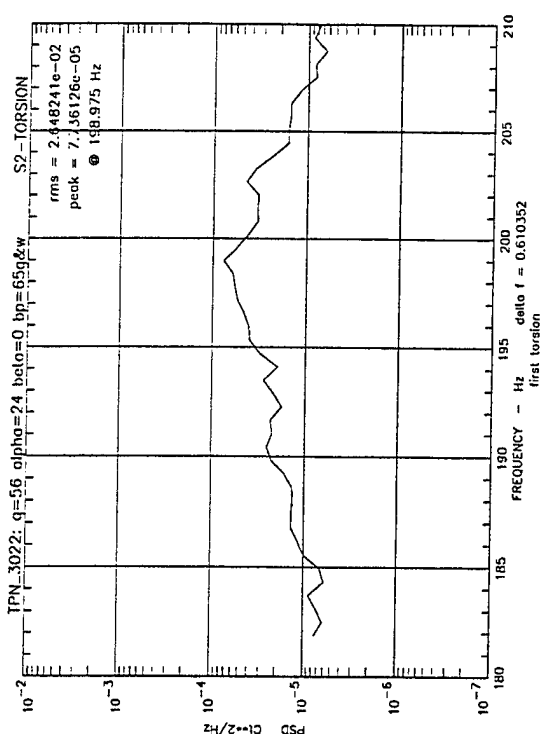
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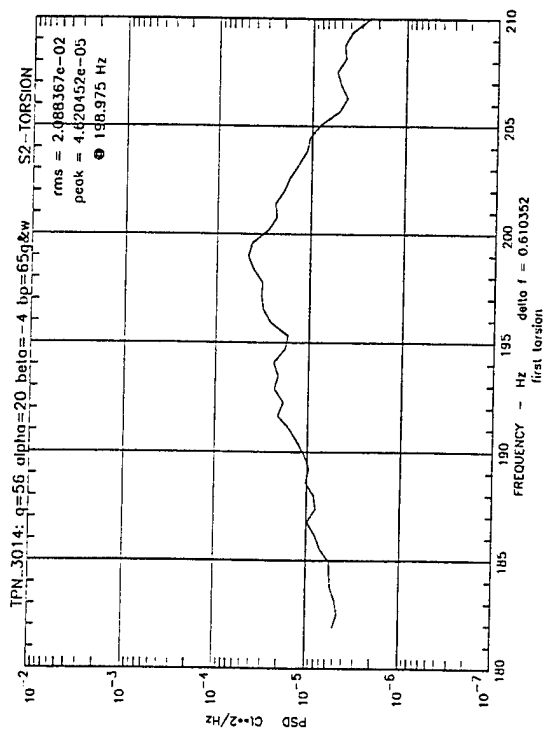
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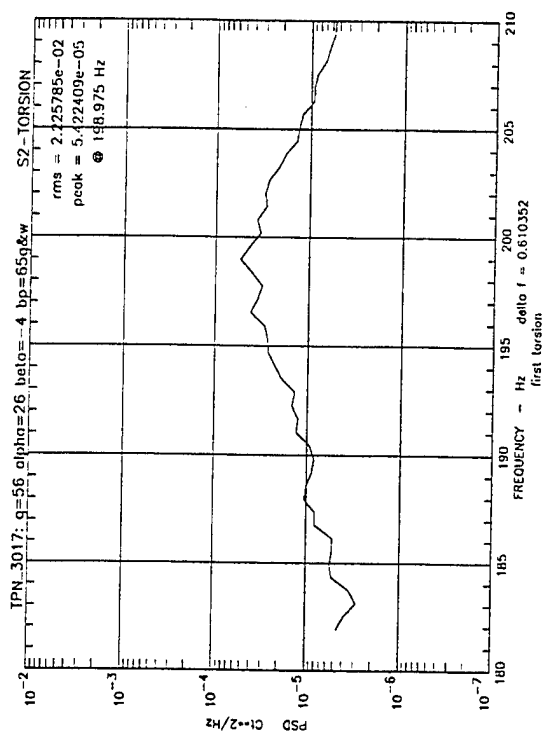
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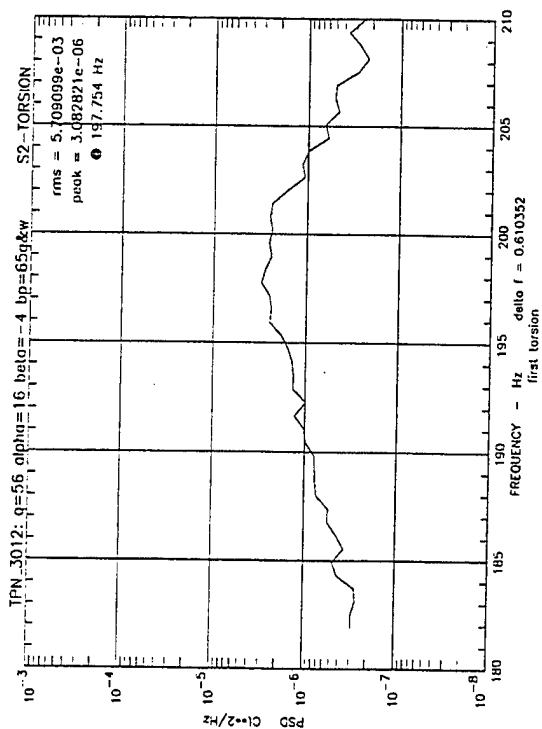
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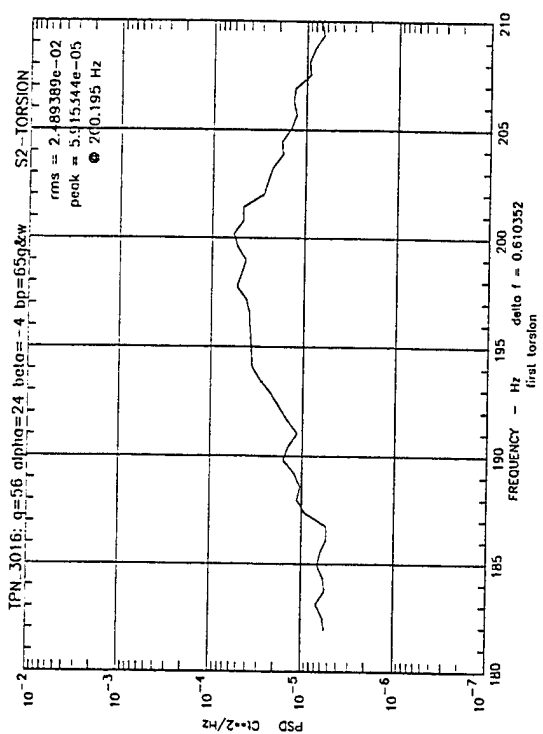
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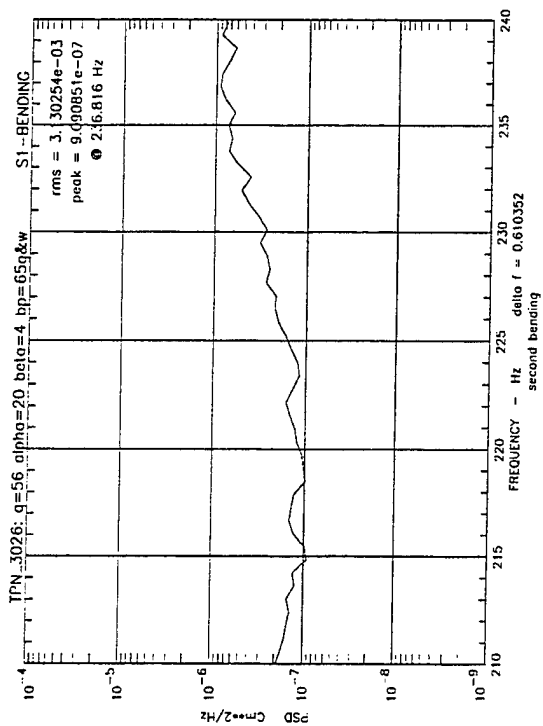
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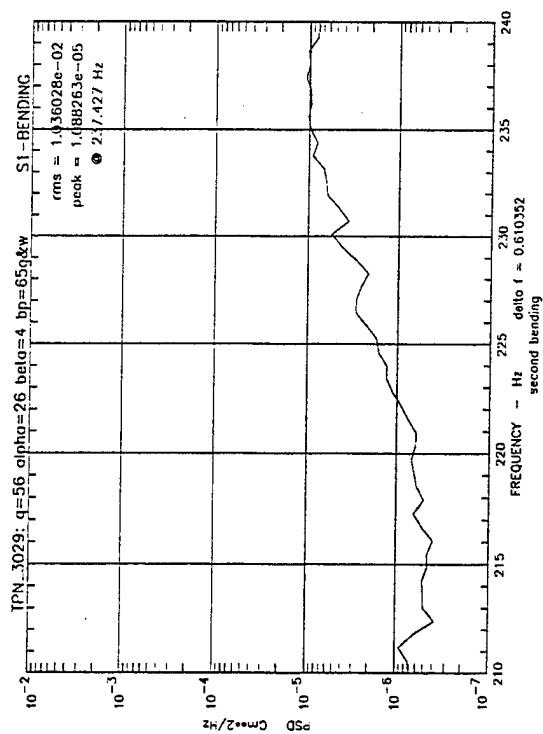
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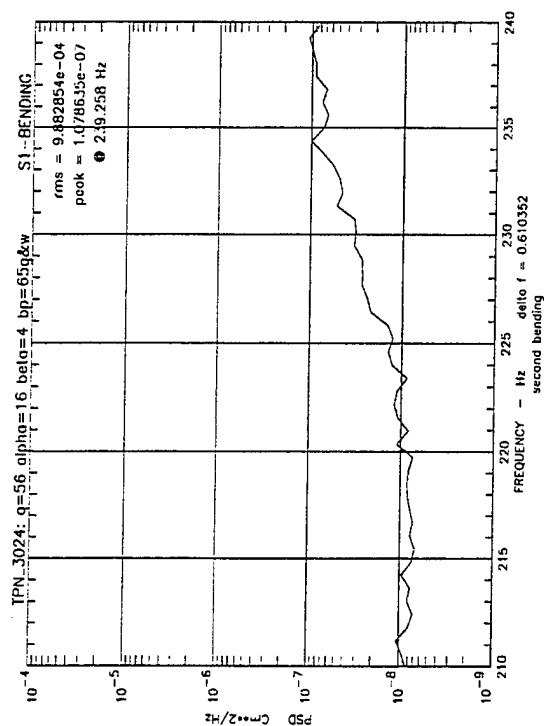
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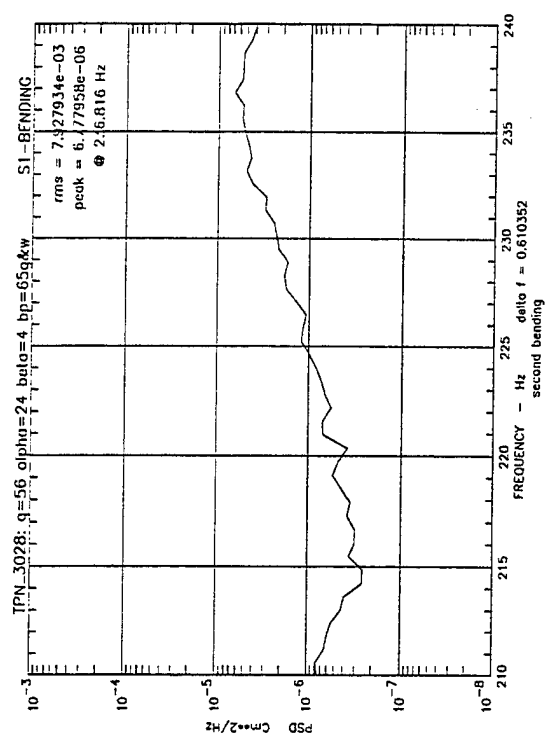
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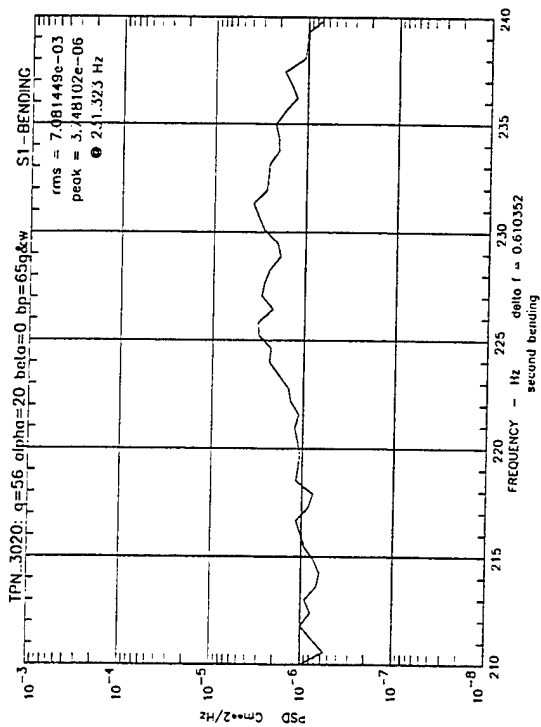
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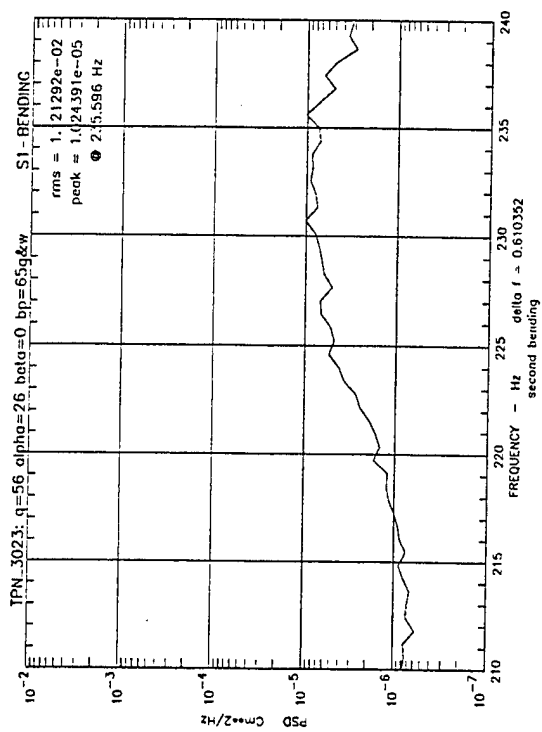
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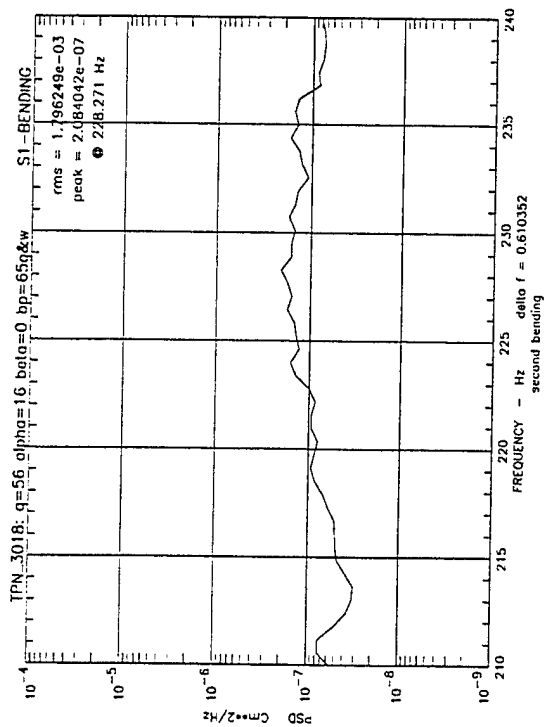
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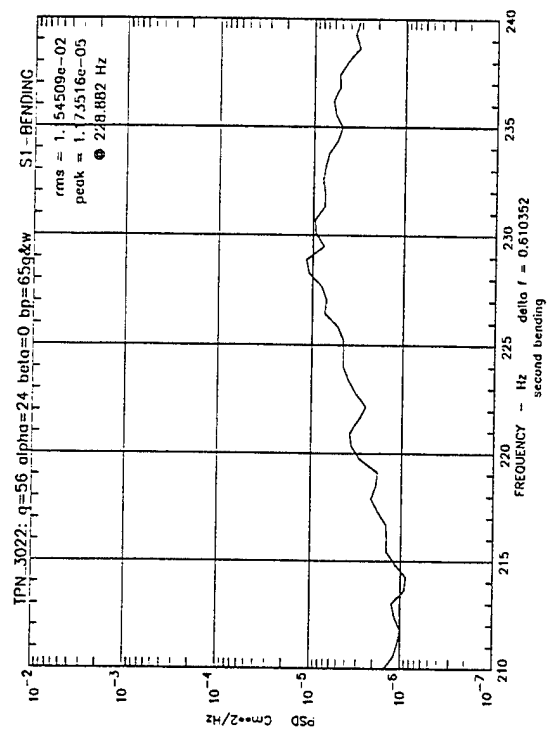
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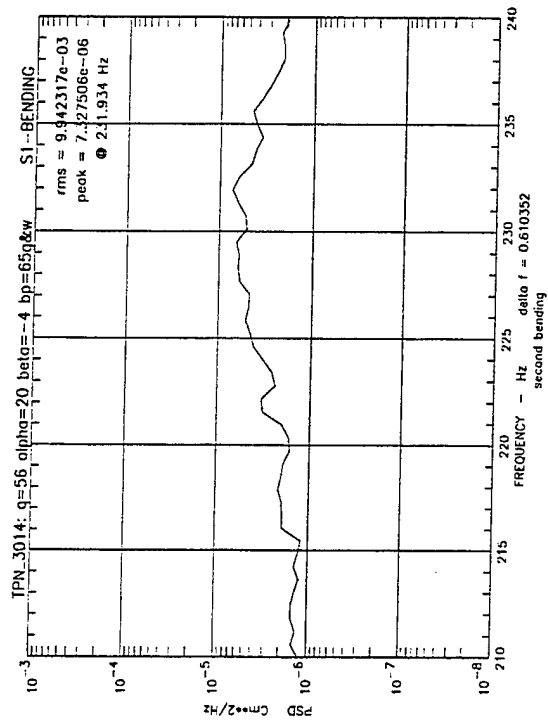
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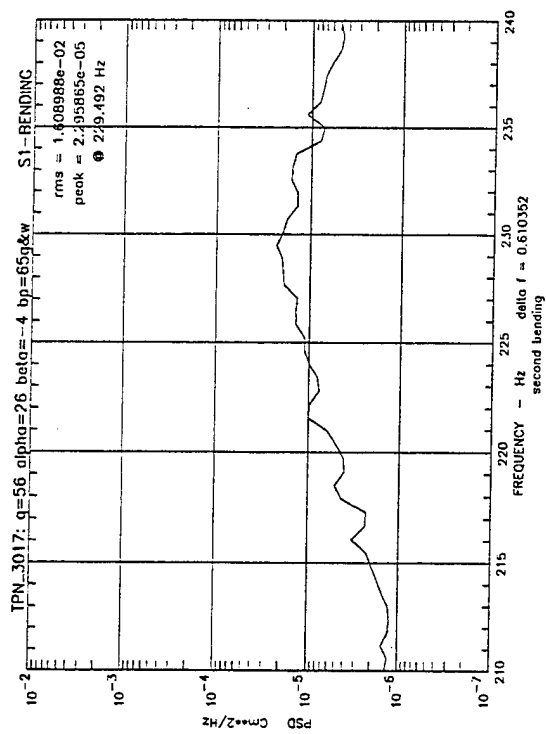
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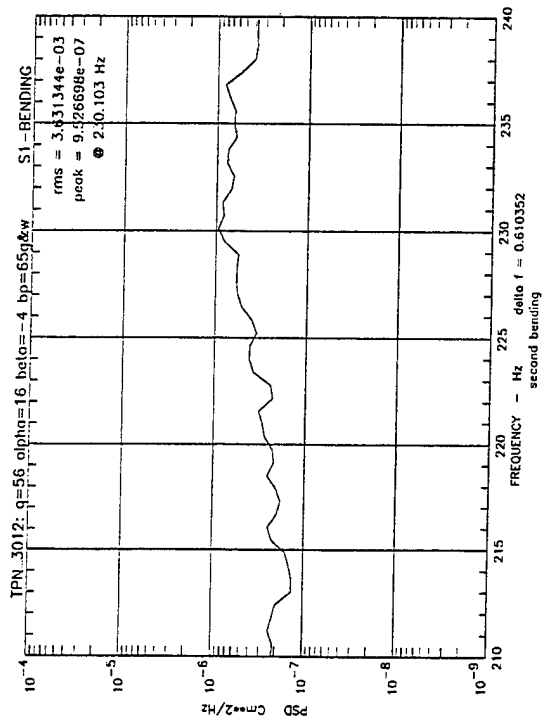
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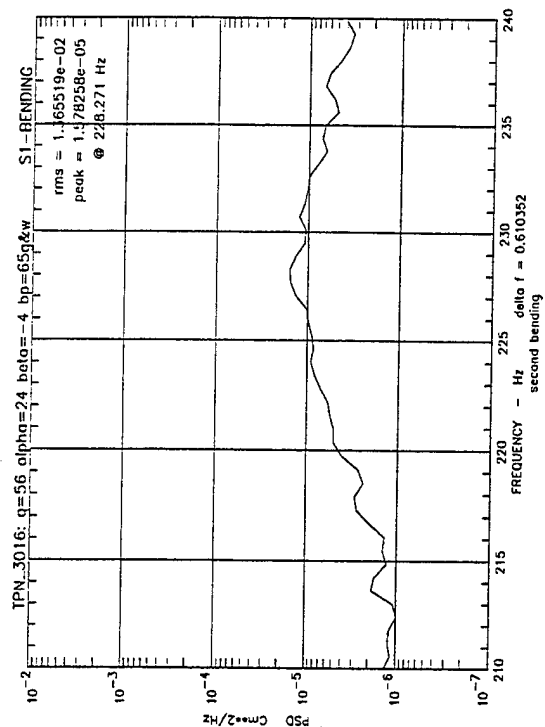
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F-15 Tail Buffet Test



F-15 Tail Buffet Test

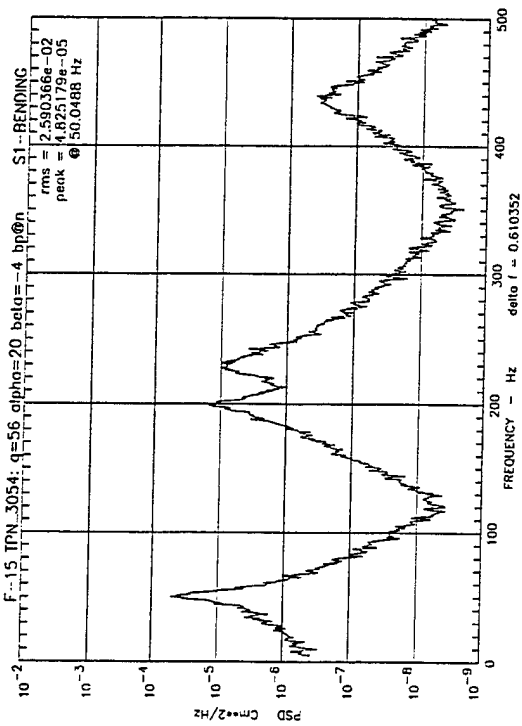


**FLEXIBLE TAIL RESPONSE
NON DIMENSIONAL BENDING AND TORSION
PSD GRAPHS**

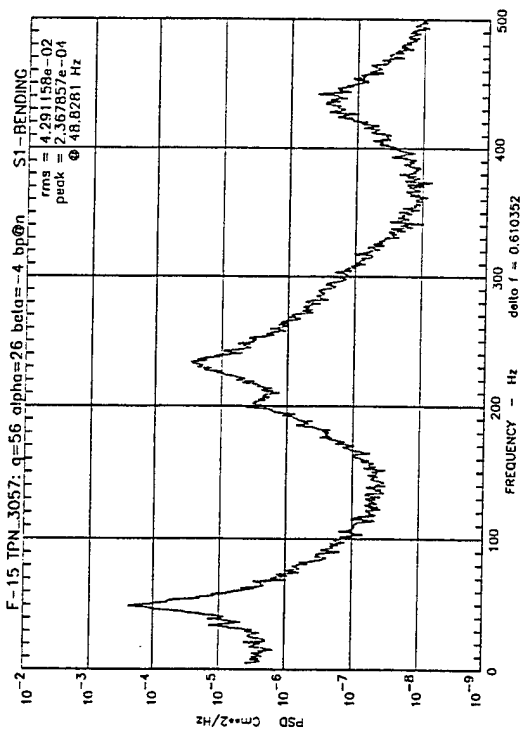
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3.1.1.4 NBP = 87 PSI, BETA = 0, +4, -4 DEG, ALPHA=16....26 DEG

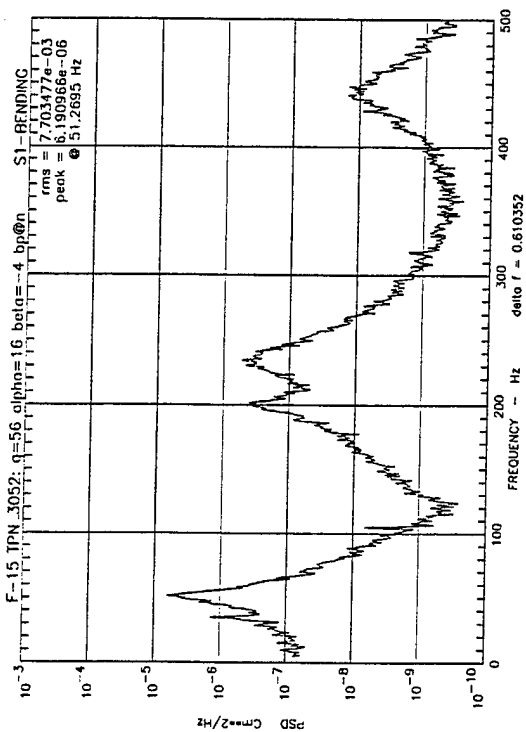
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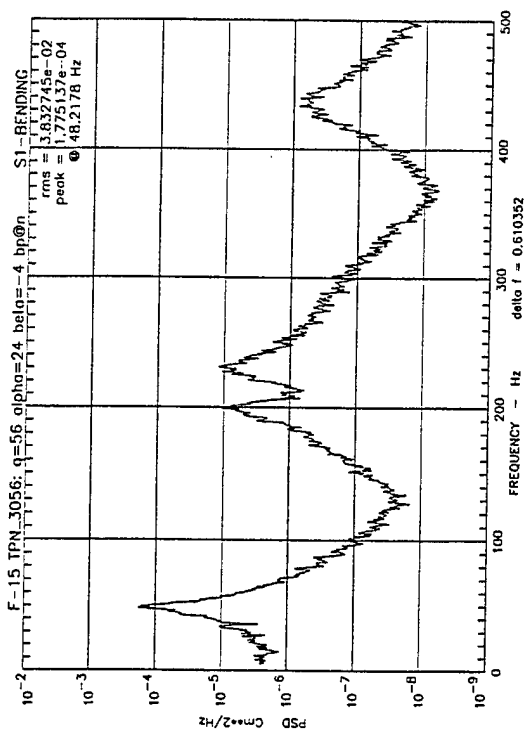
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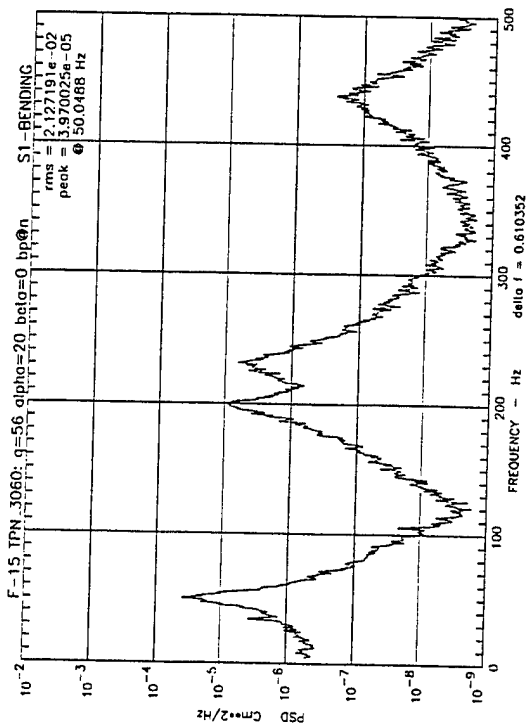
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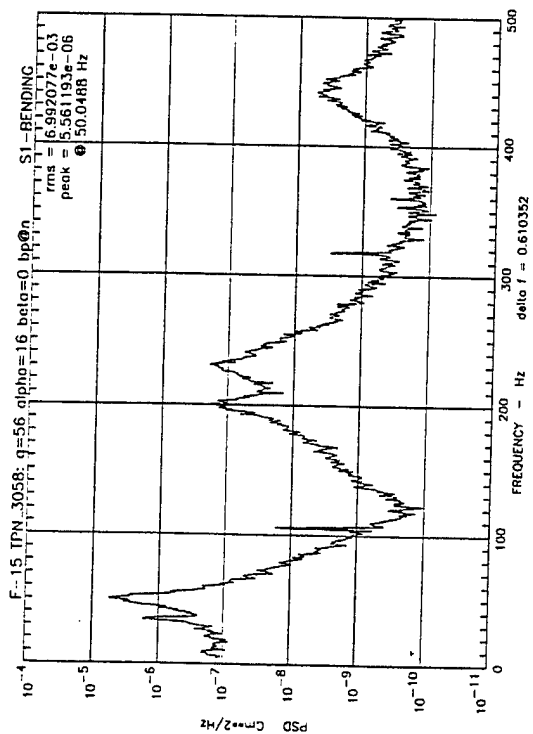
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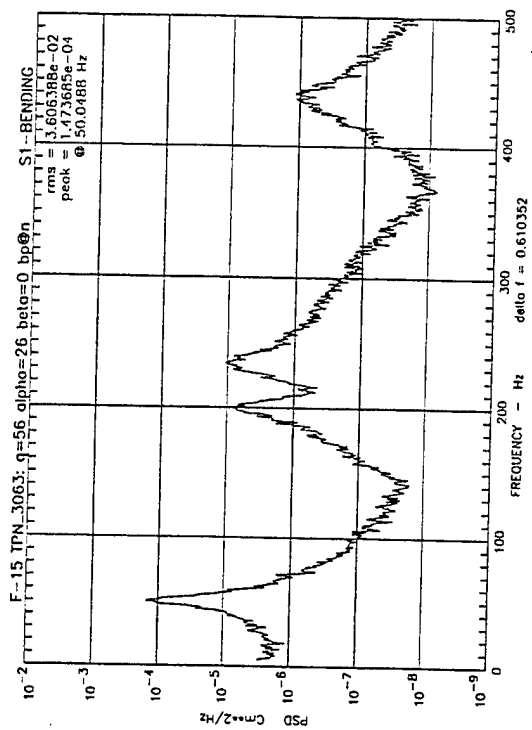
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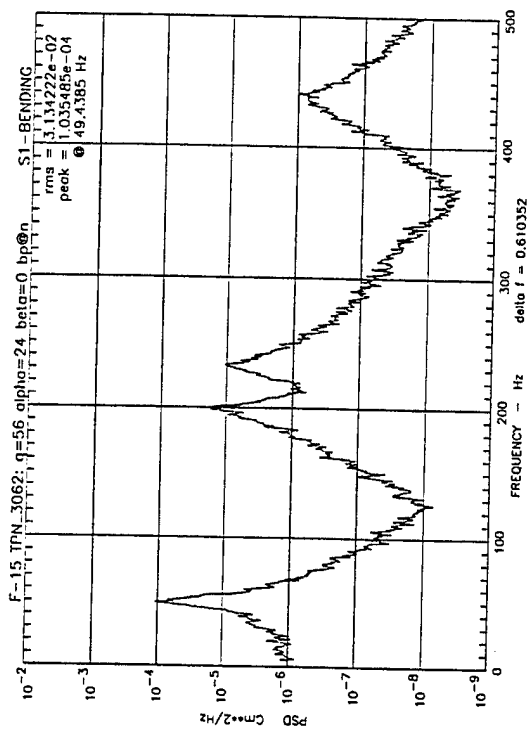
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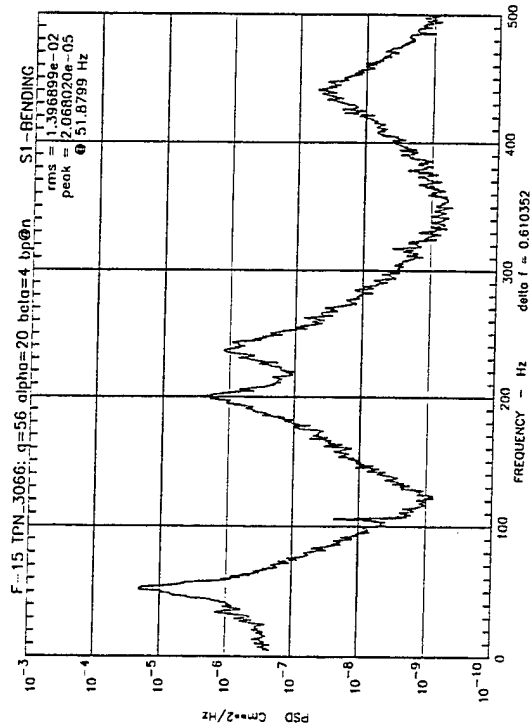
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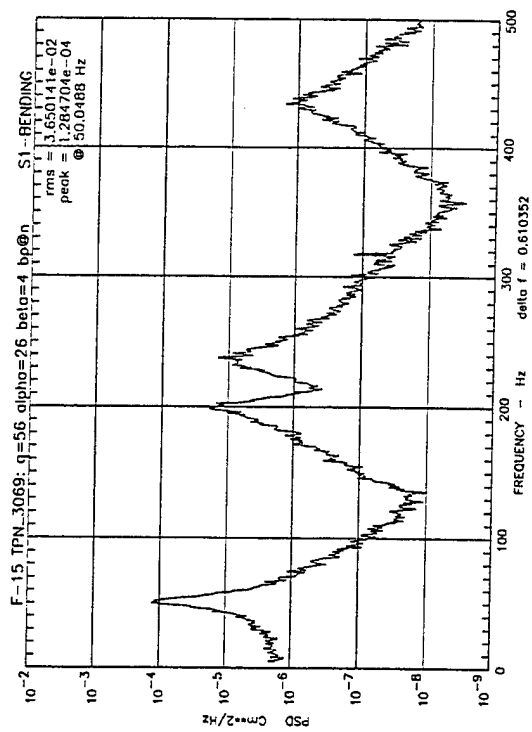
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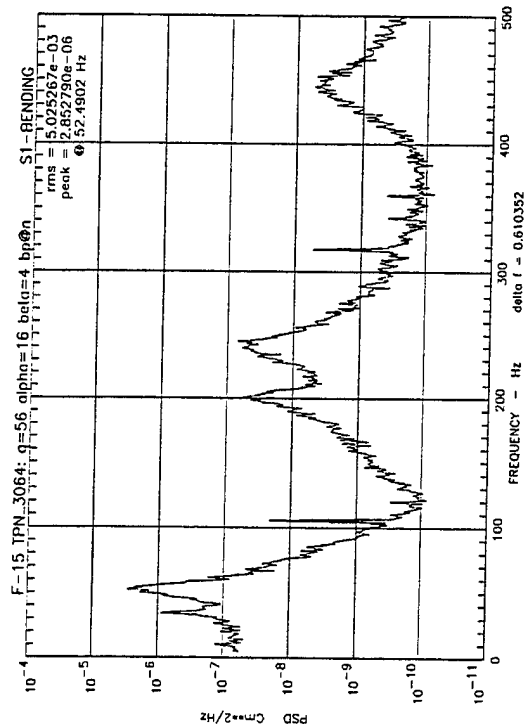
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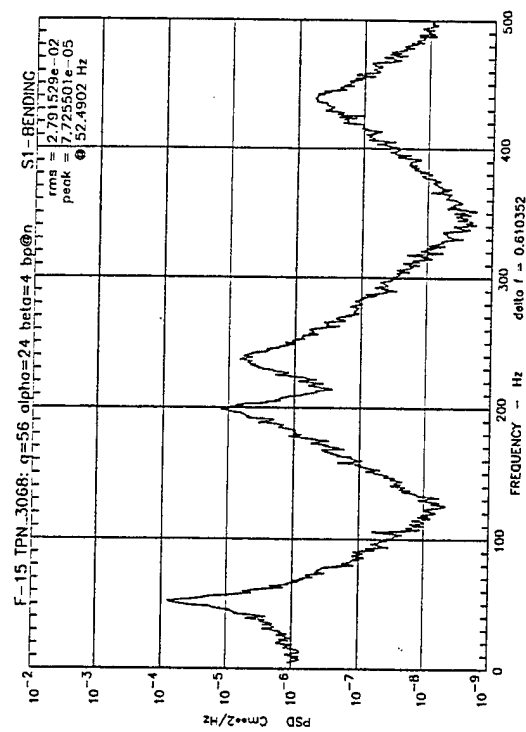
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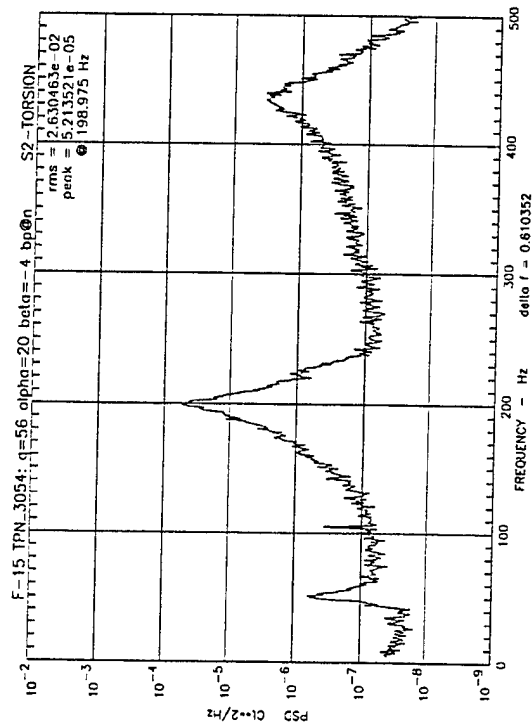
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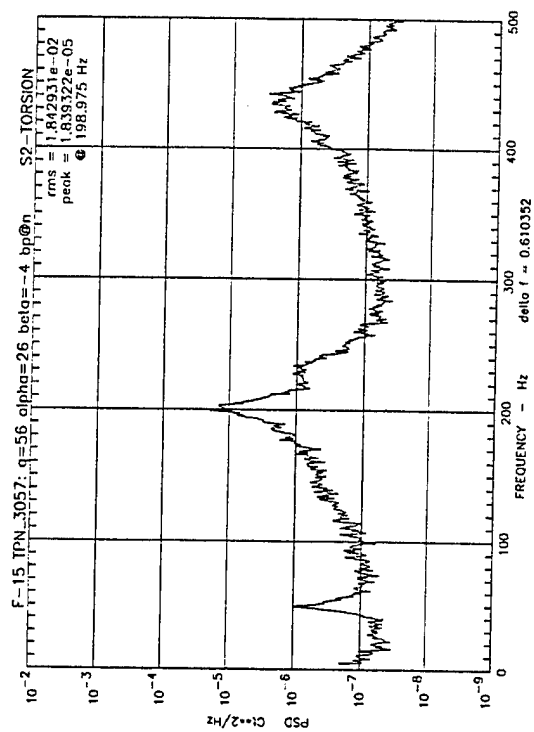
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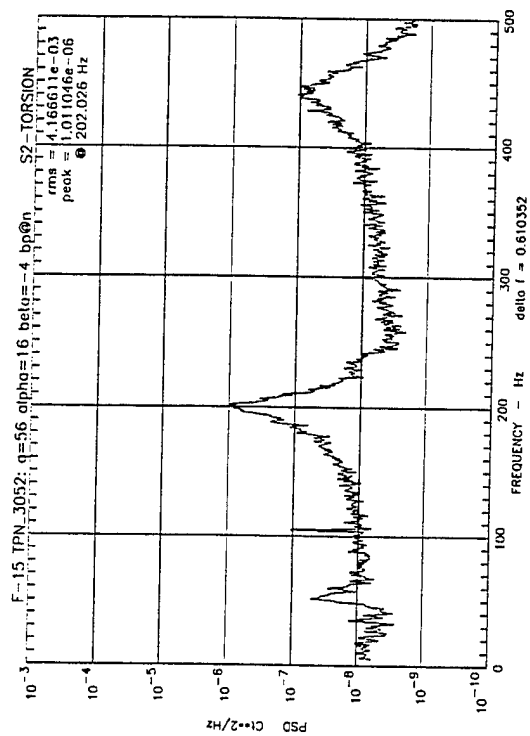
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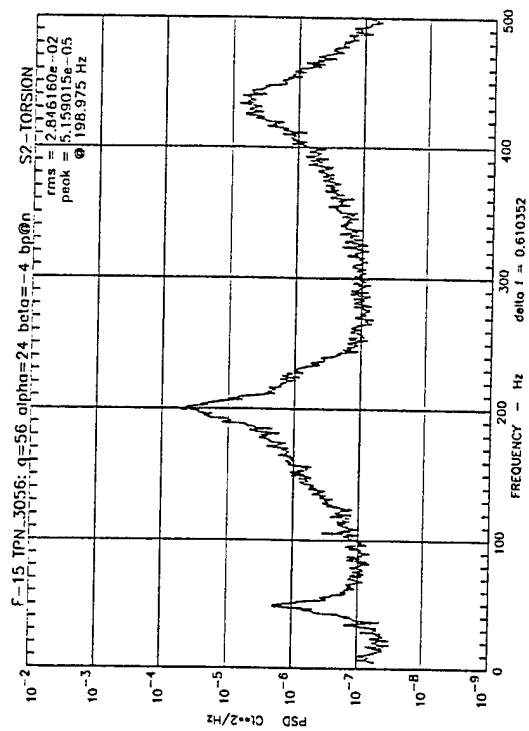
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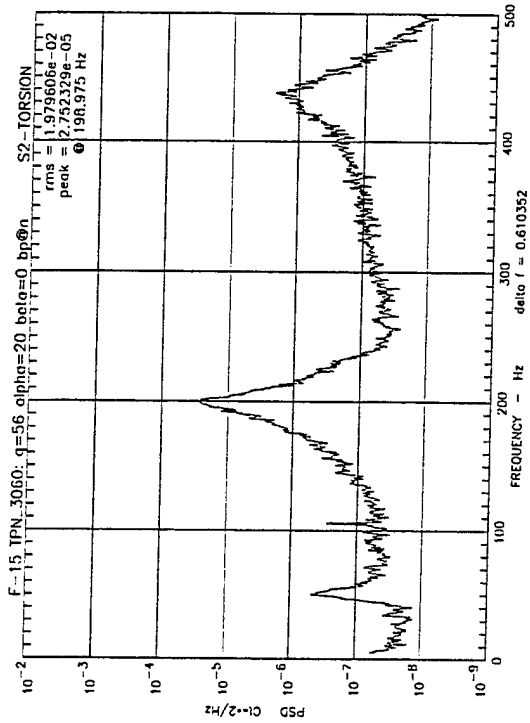
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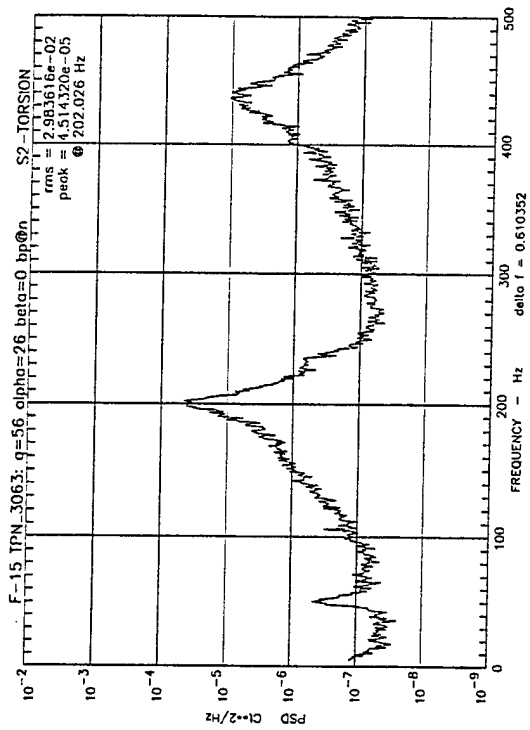
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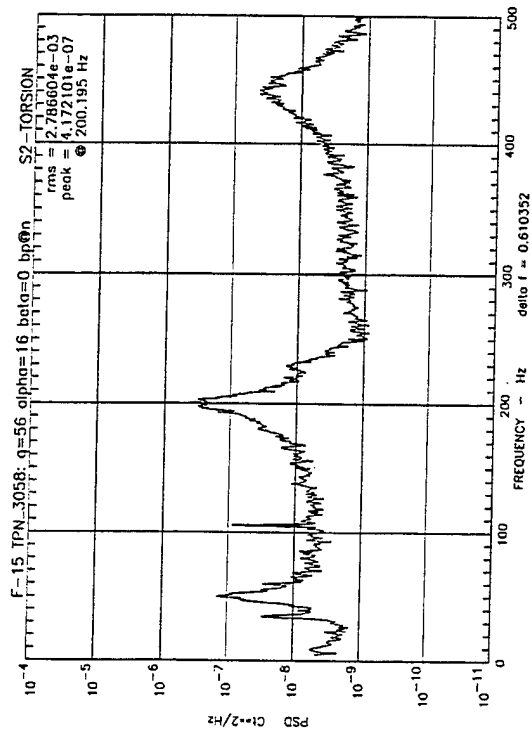
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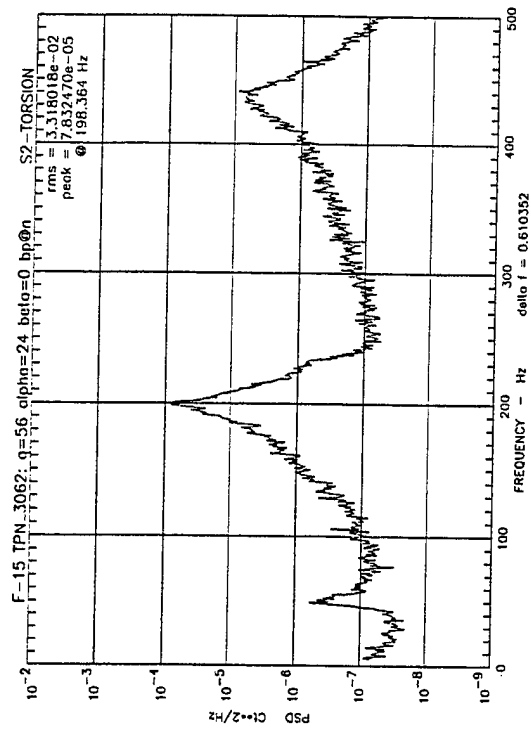
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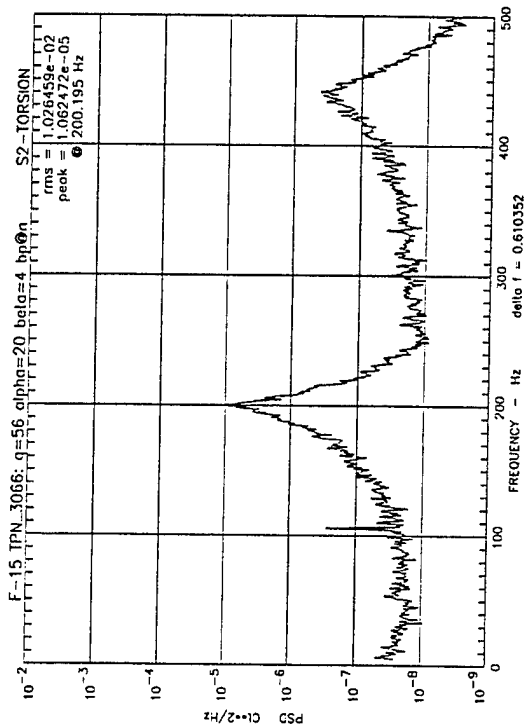
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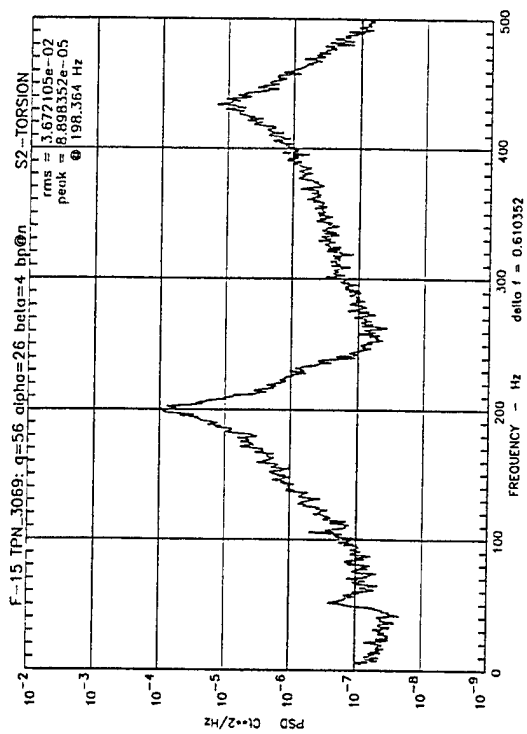
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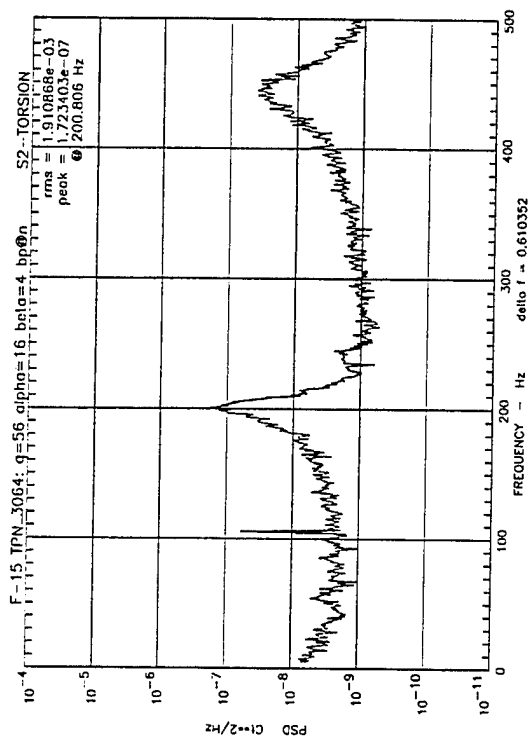
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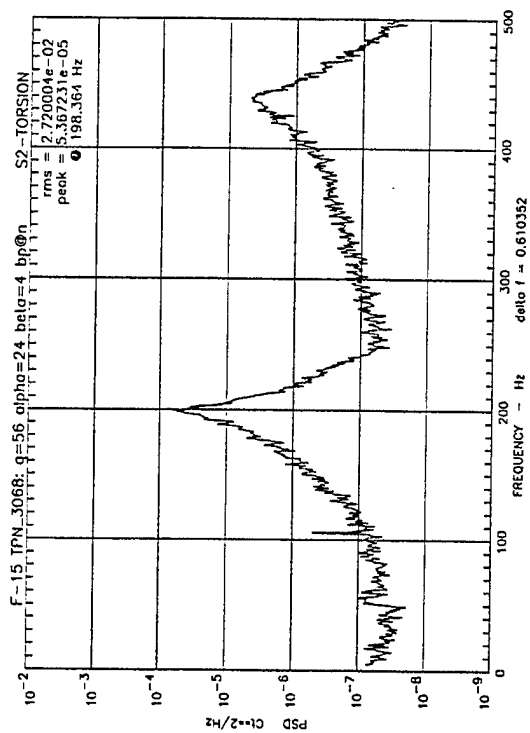
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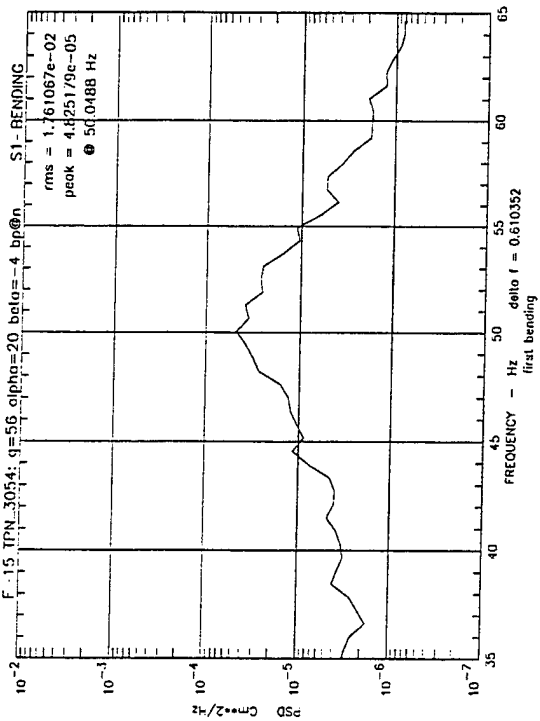
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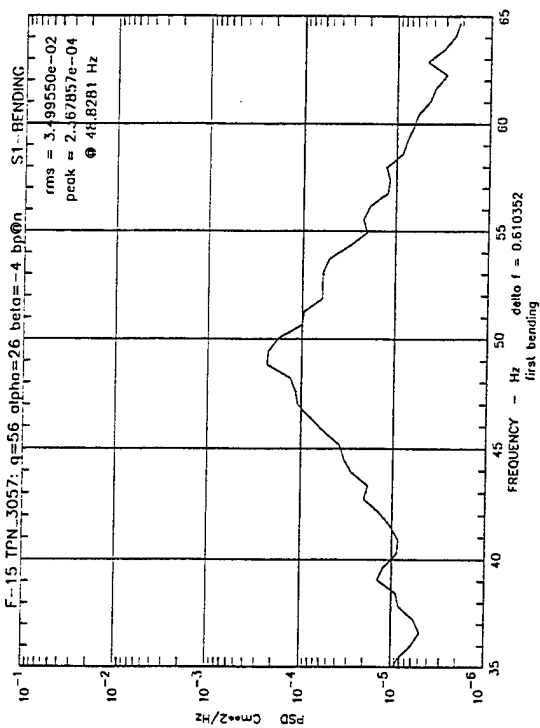
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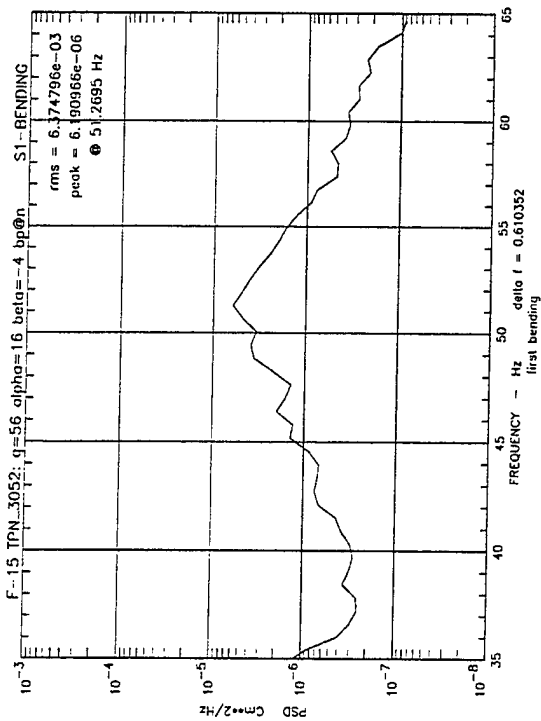
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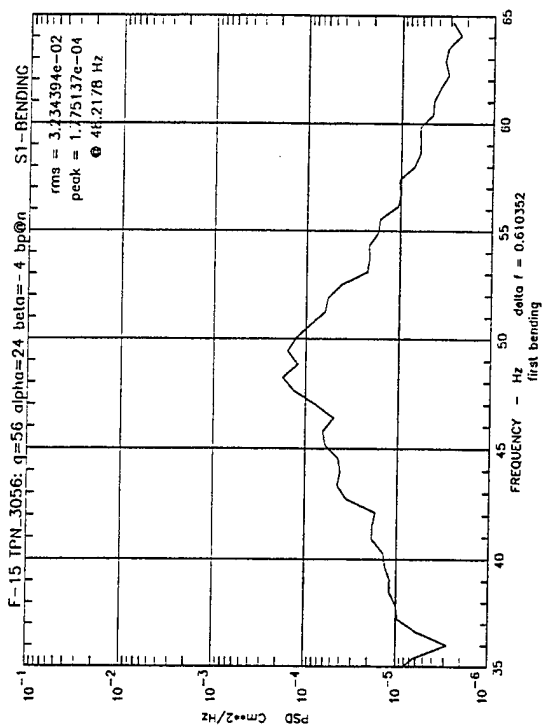
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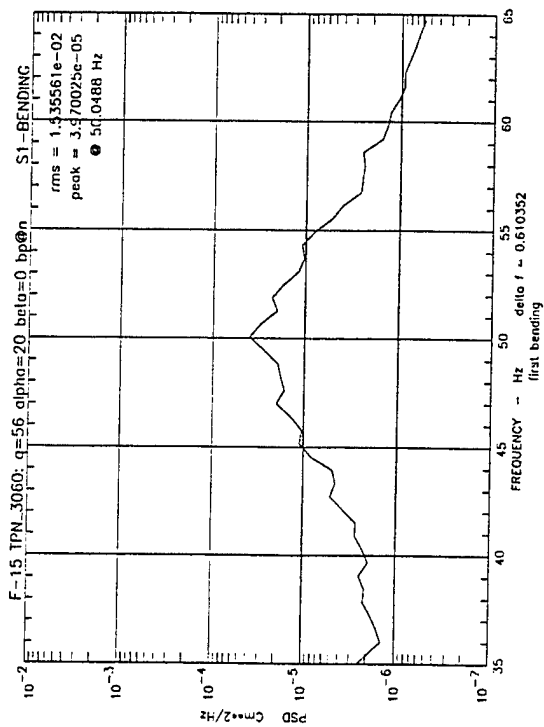
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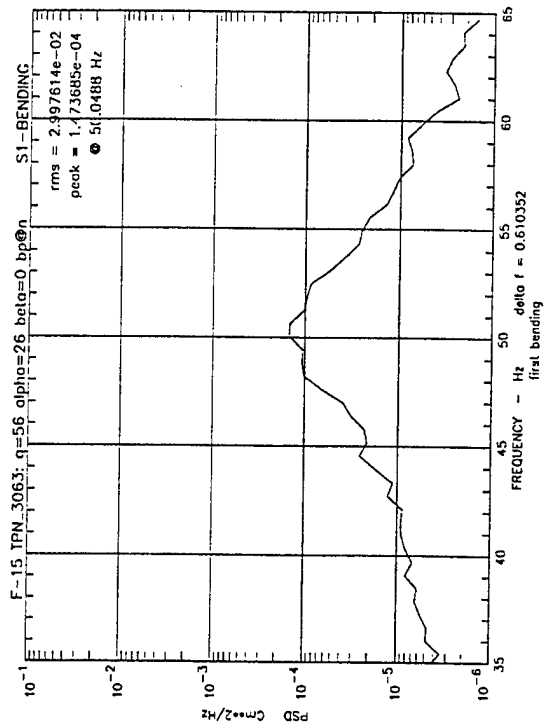
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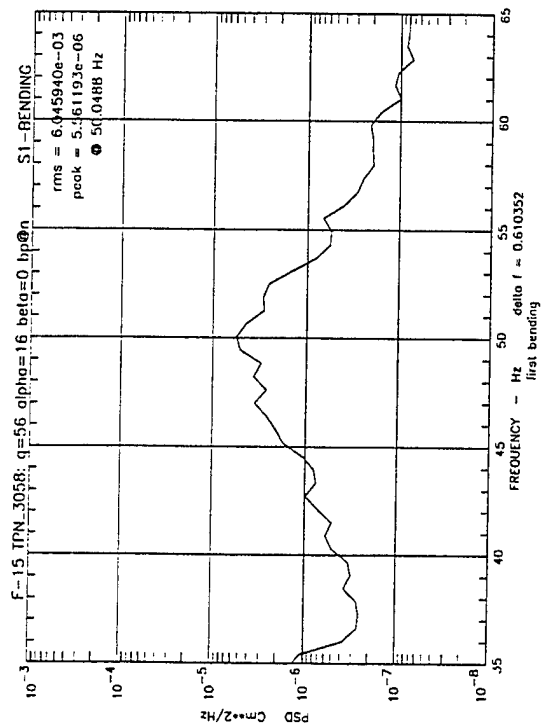
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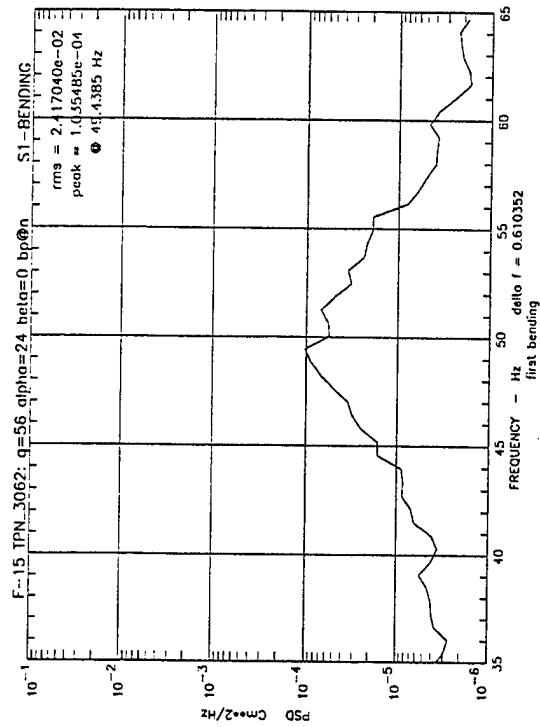
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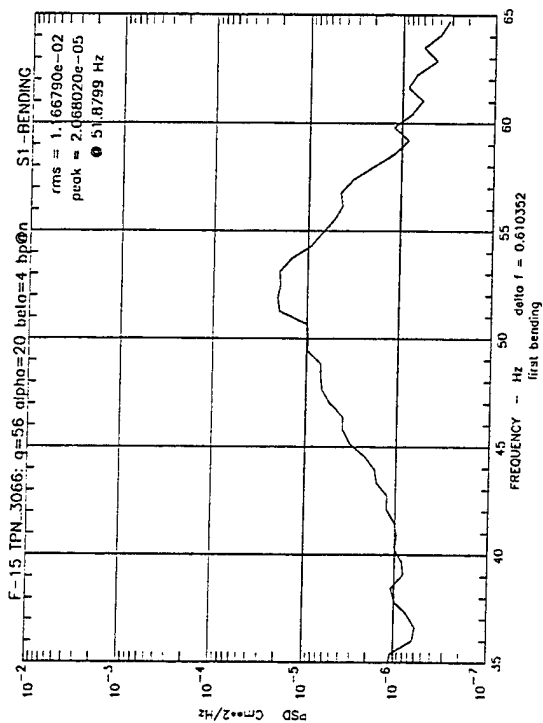
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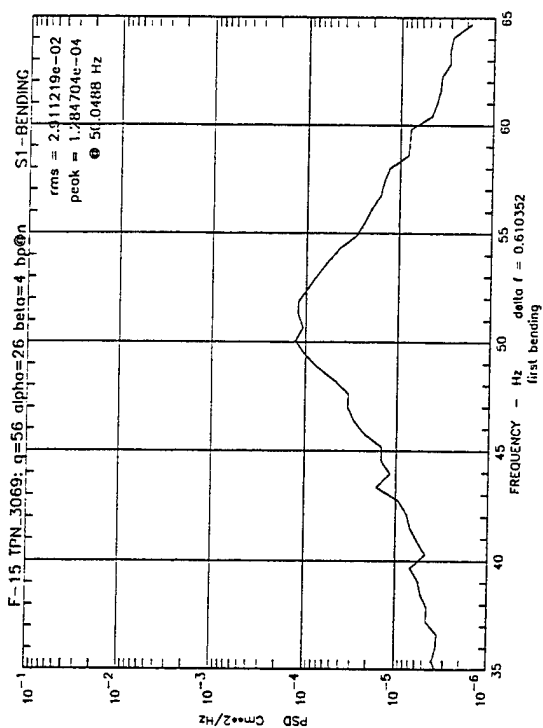
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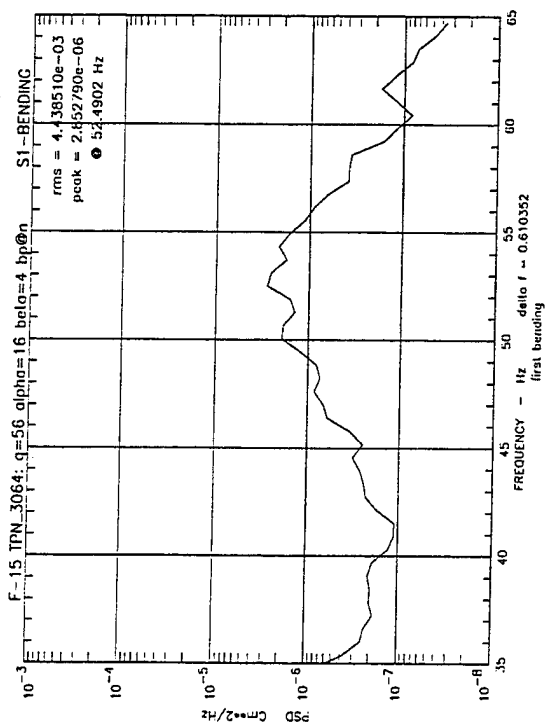
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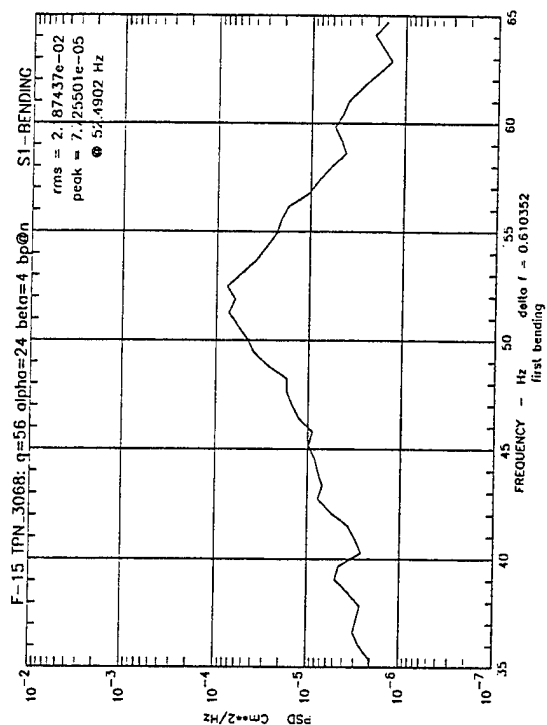
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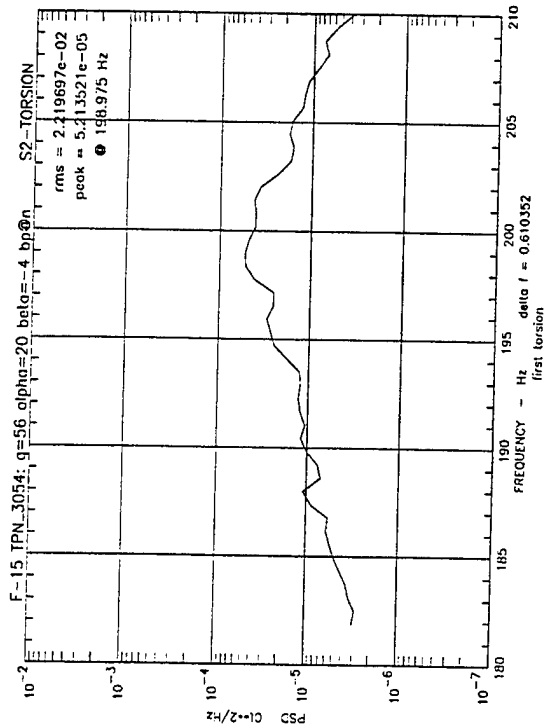
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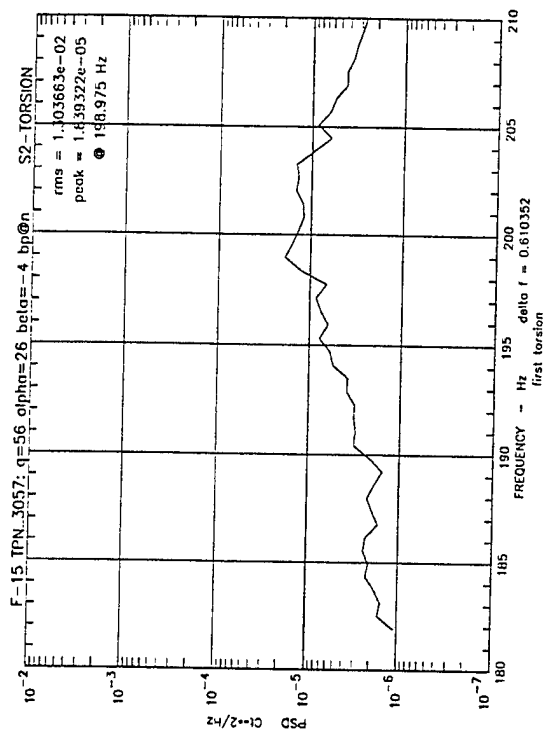
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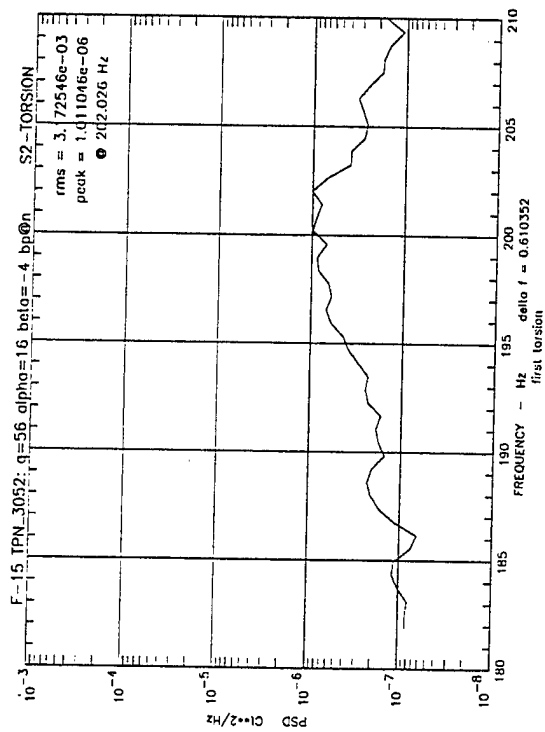
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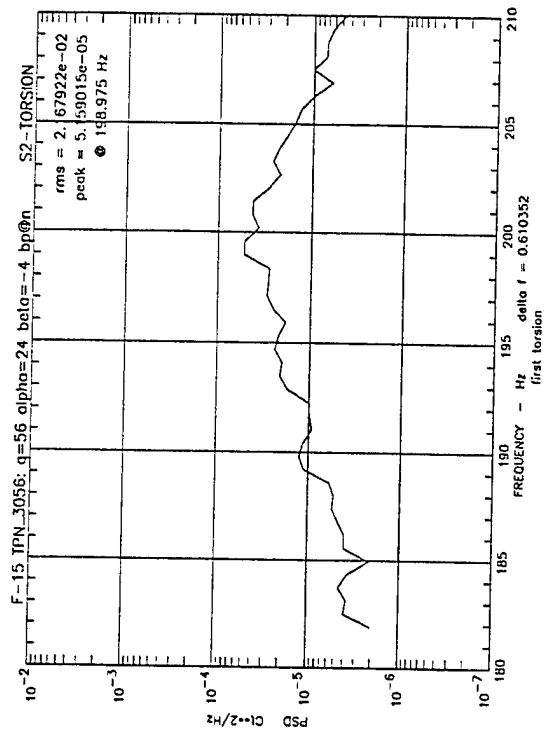
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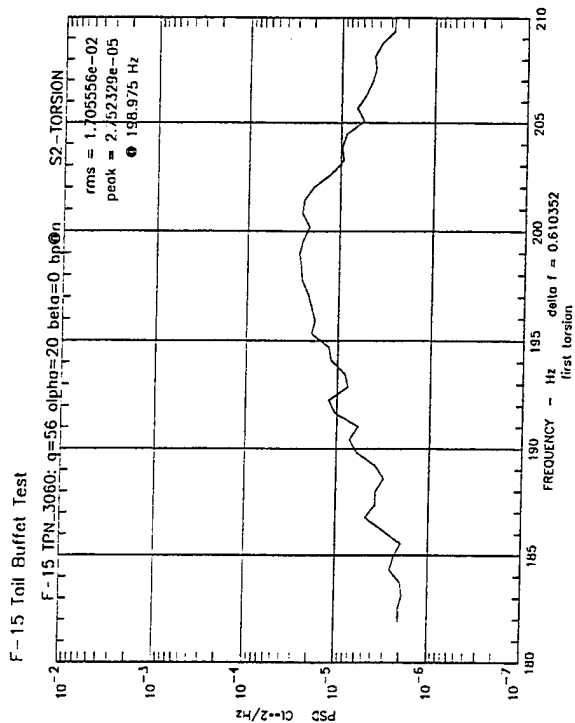
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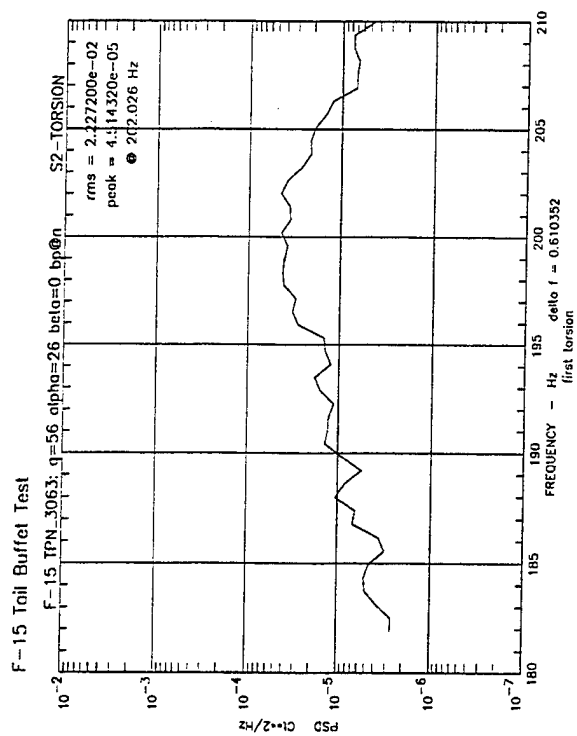
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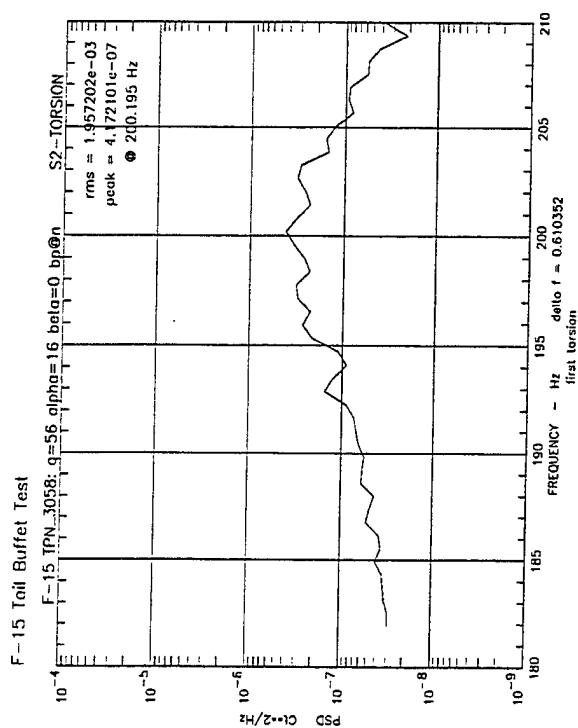
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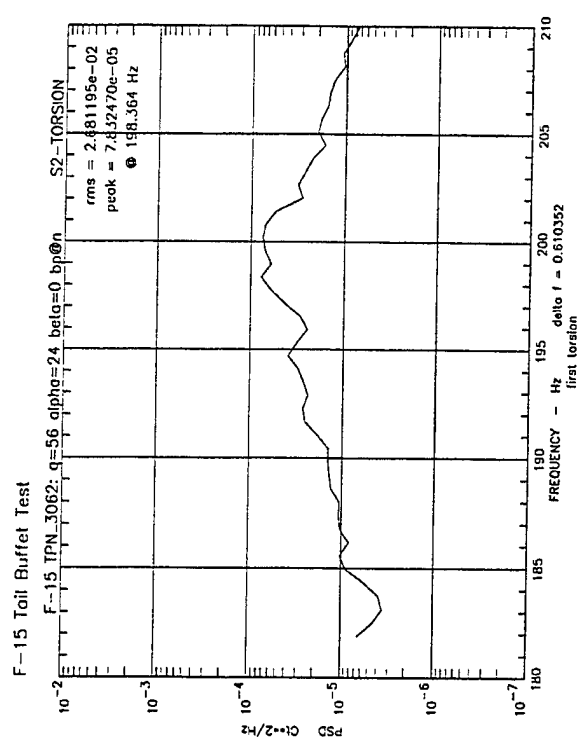
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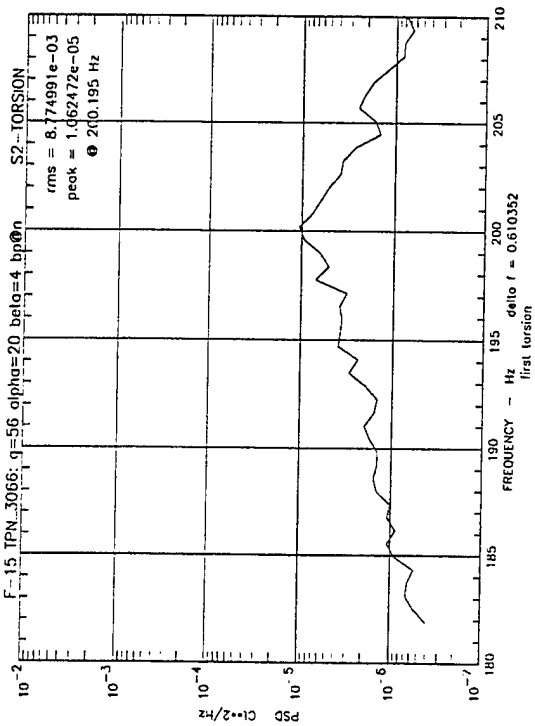
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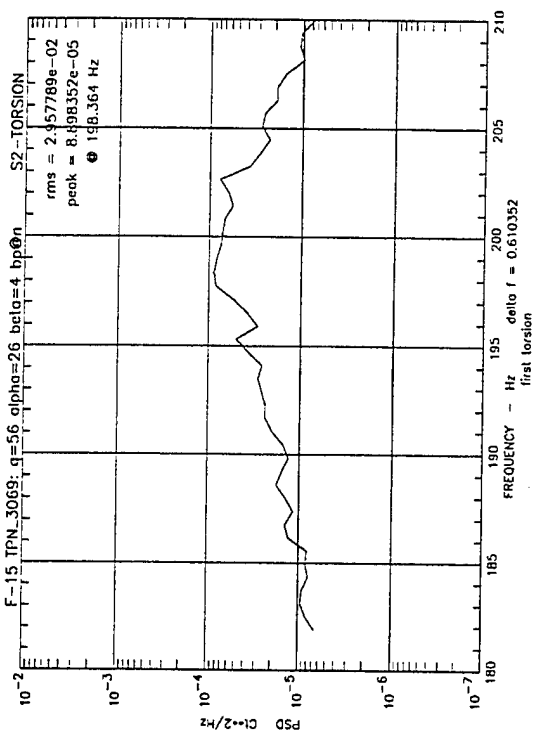
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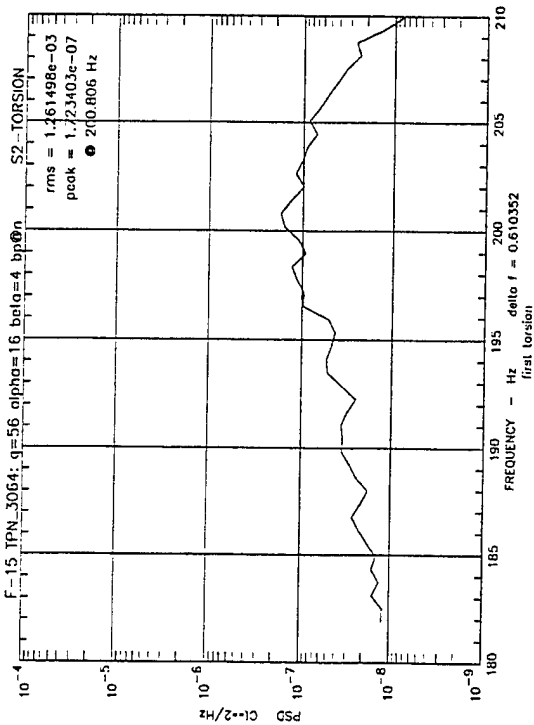
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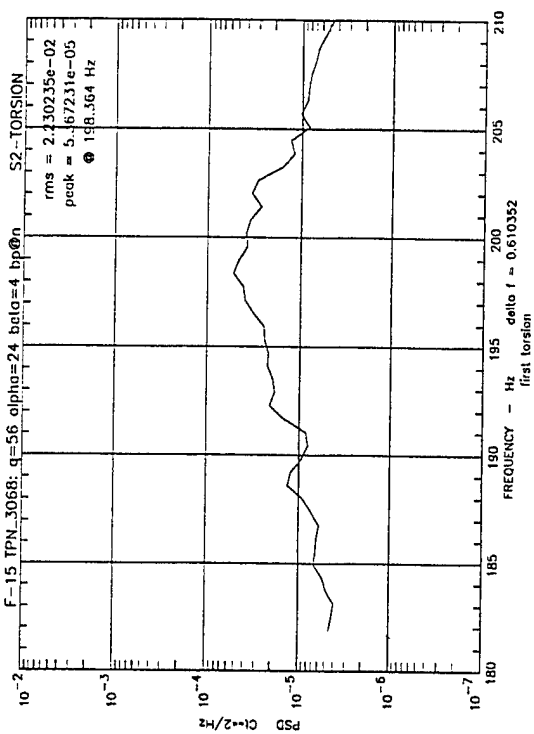
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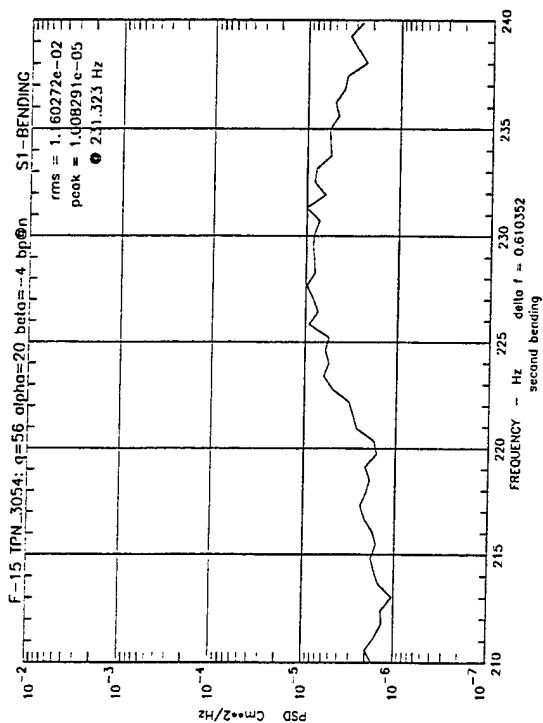
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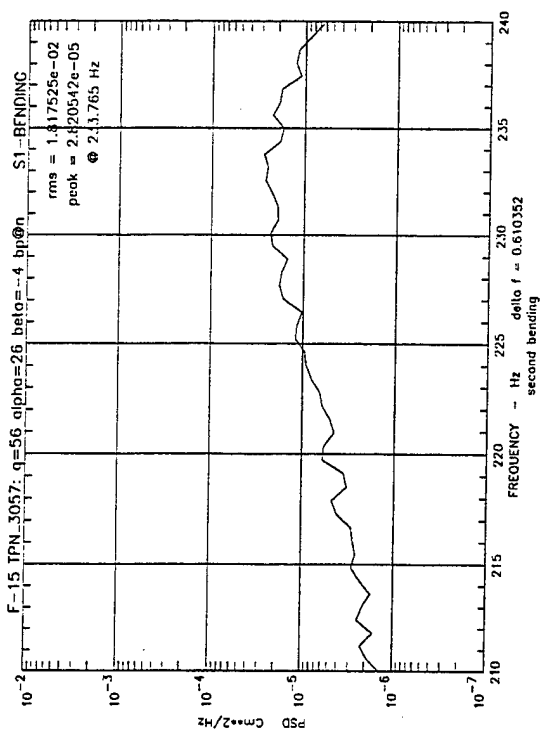
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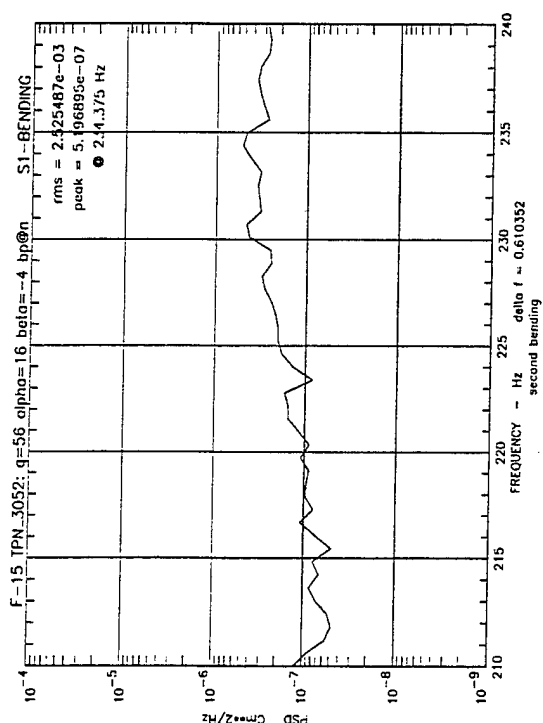
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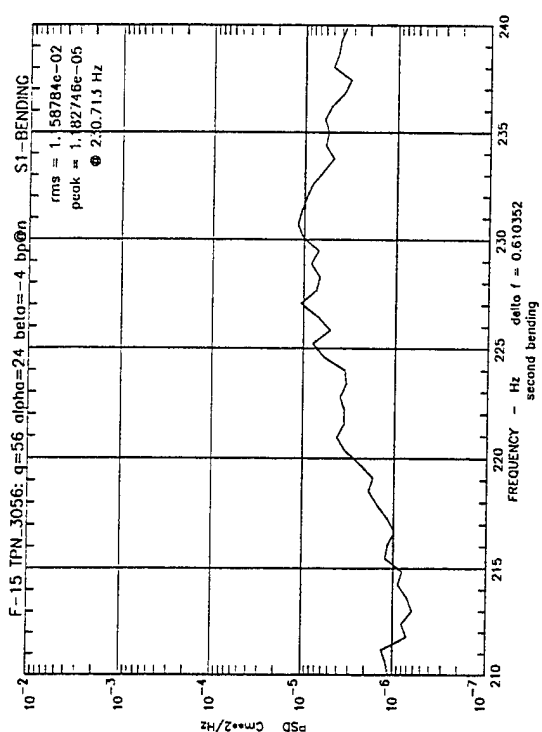
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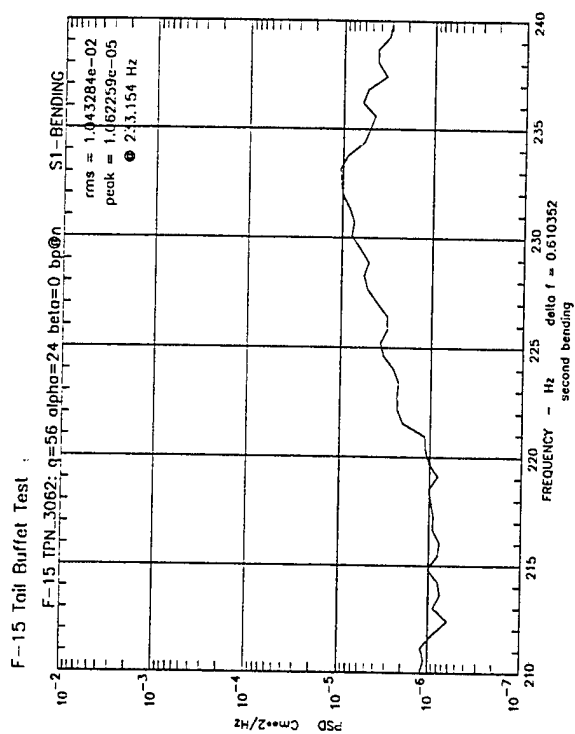
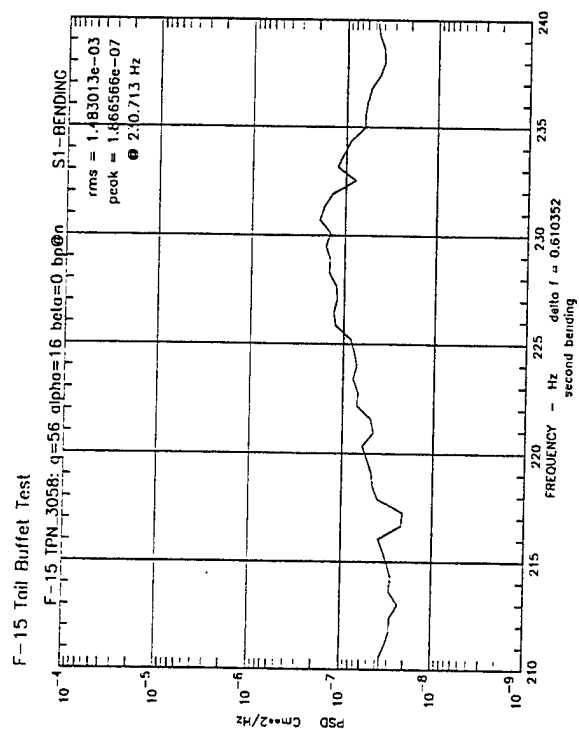
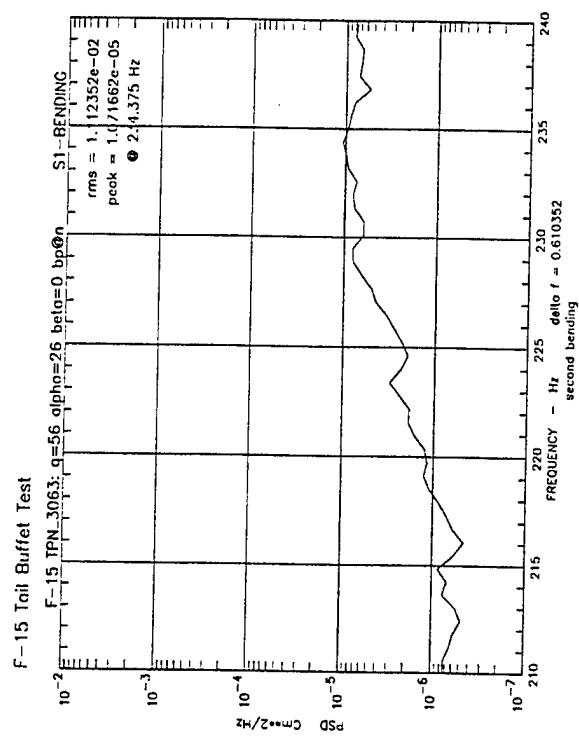
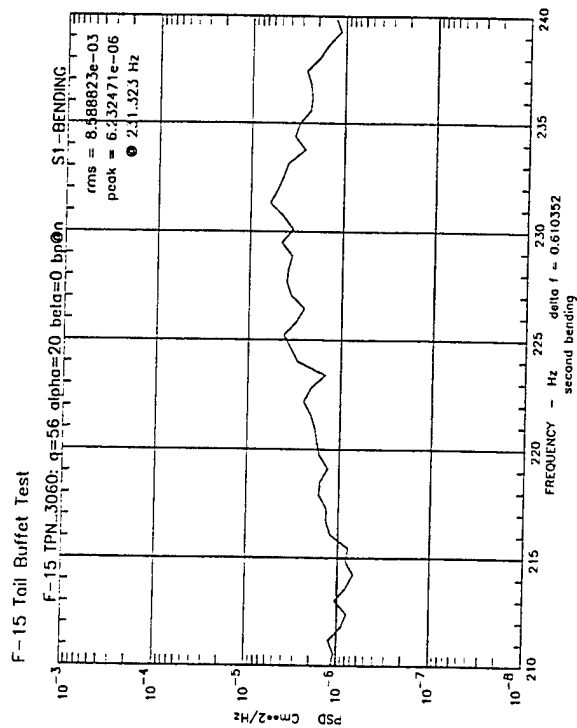


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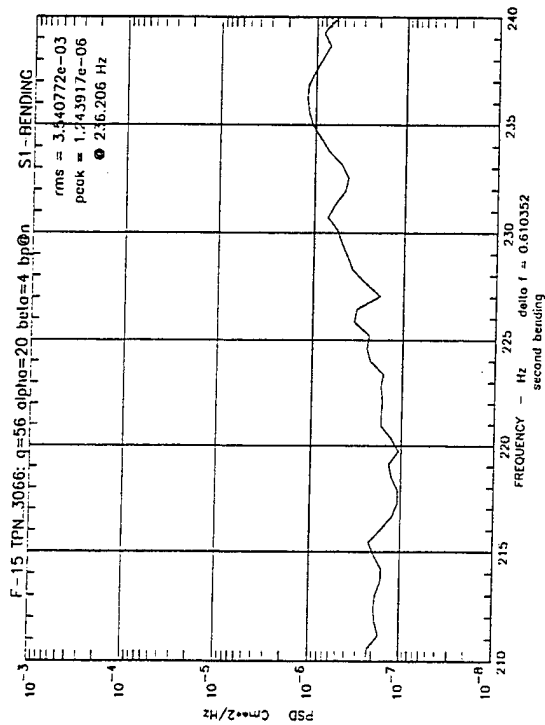


F-15 Tail Buffet Test

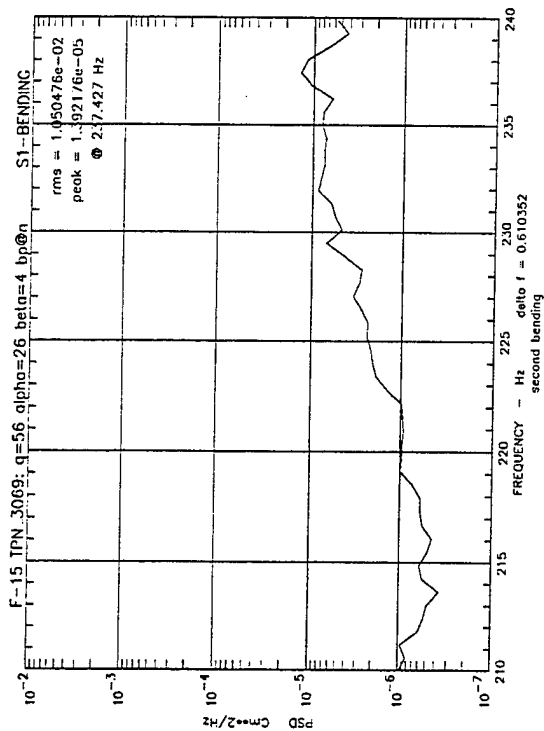




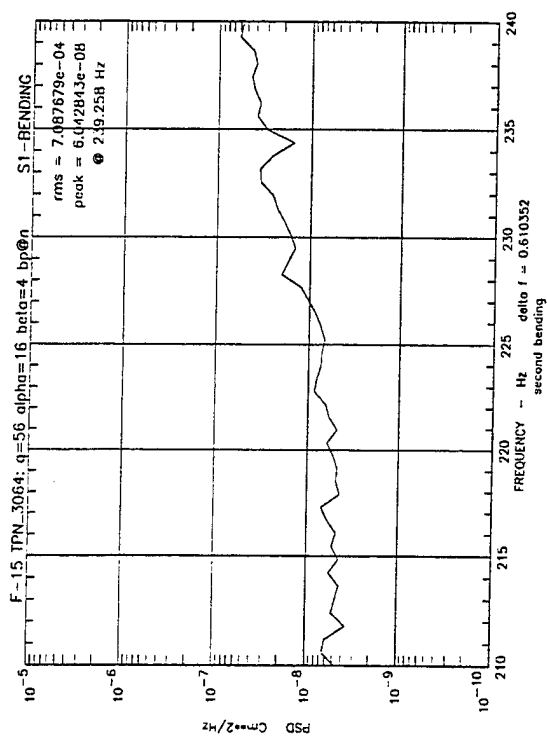
F-15 Tail Buffet Test



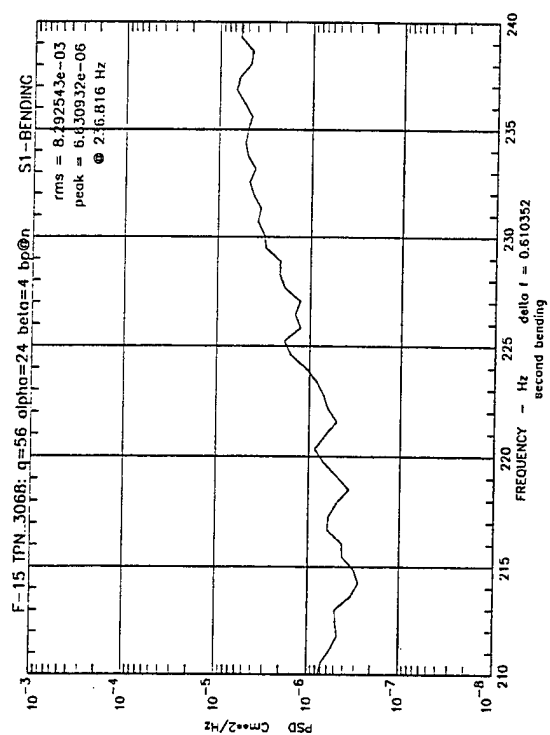
F-15 Tail Buffet Test



F-15 Tail Buffet Test



F-15 Tail Buffet Test

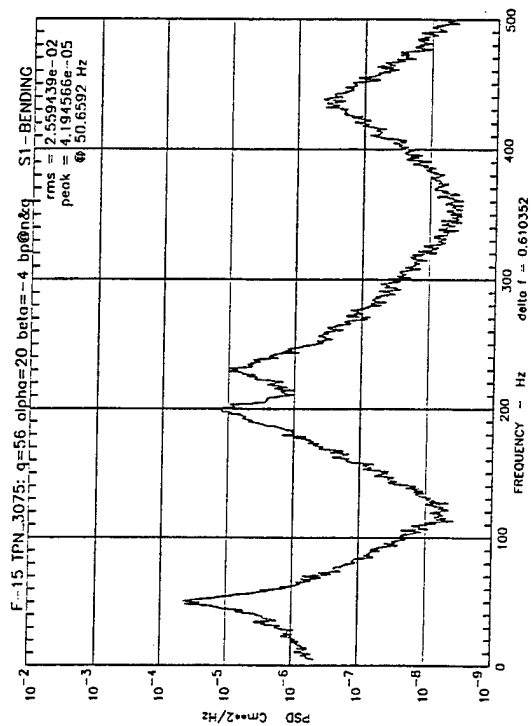


**FLEXIBLE TAIL RESPONSE
NON DIMENSIONAL BENDING AND TORSION
PSD GRAPHS**

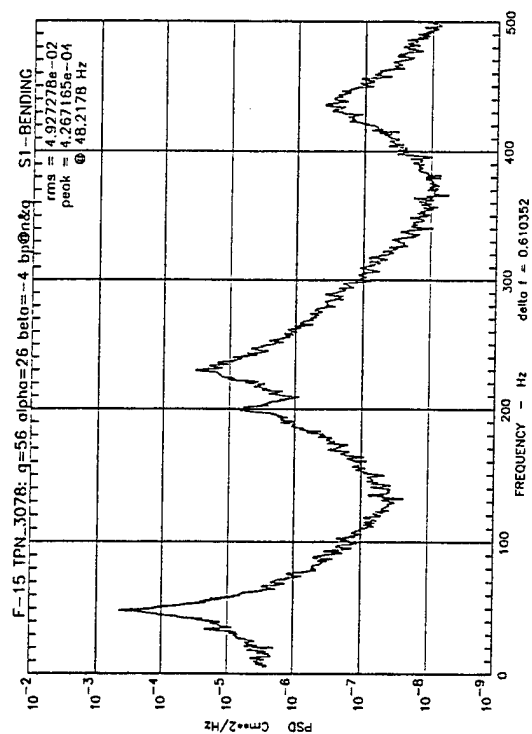
Q= 56PSF

3.1.1.5 NBP = 87 PSI, GBP = 65PSI, BETA = 0, +4, -4 DEG, ALPHA=16....26 DEG

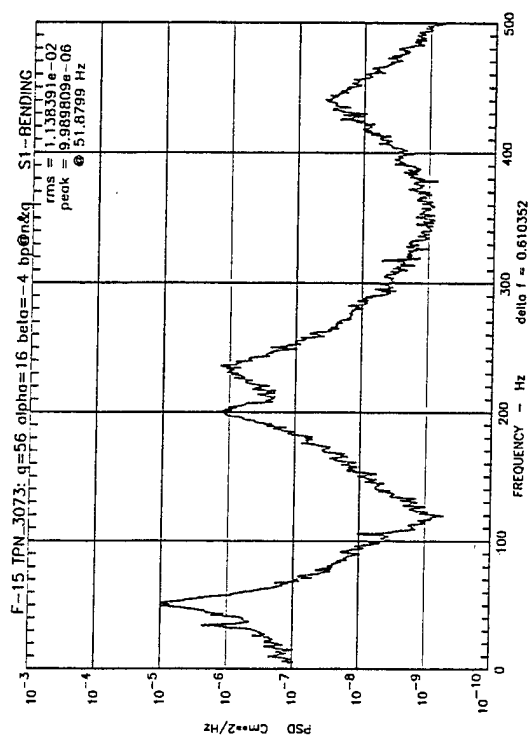
F-15 Tail Buffet Test



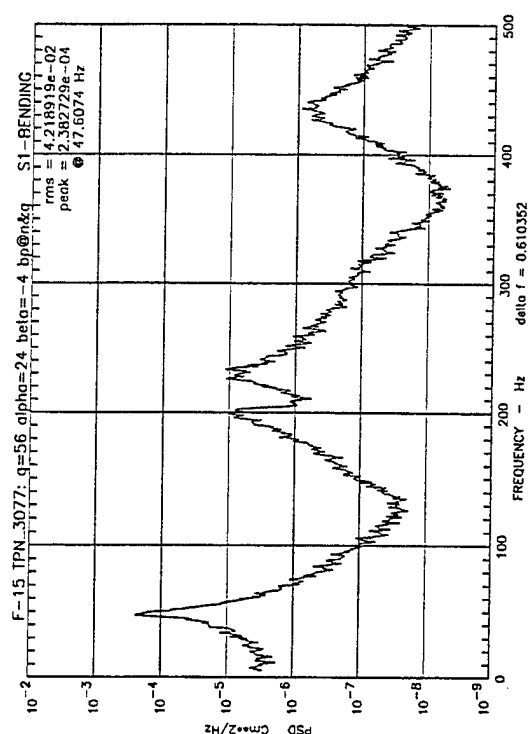
F-15 Tail Buffet Test



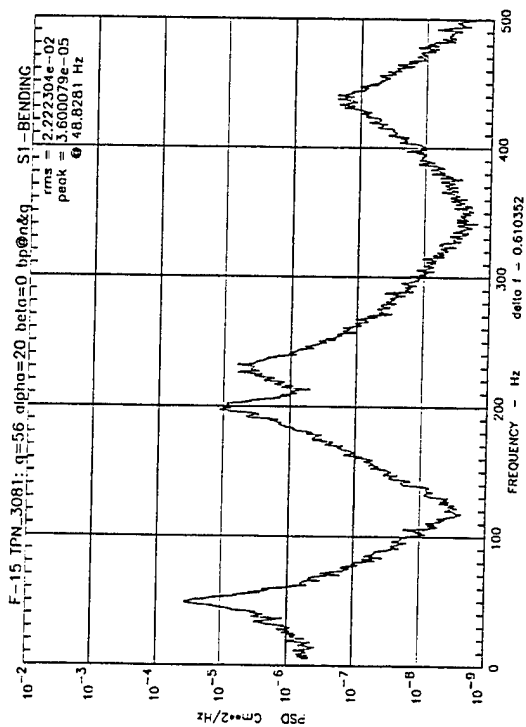
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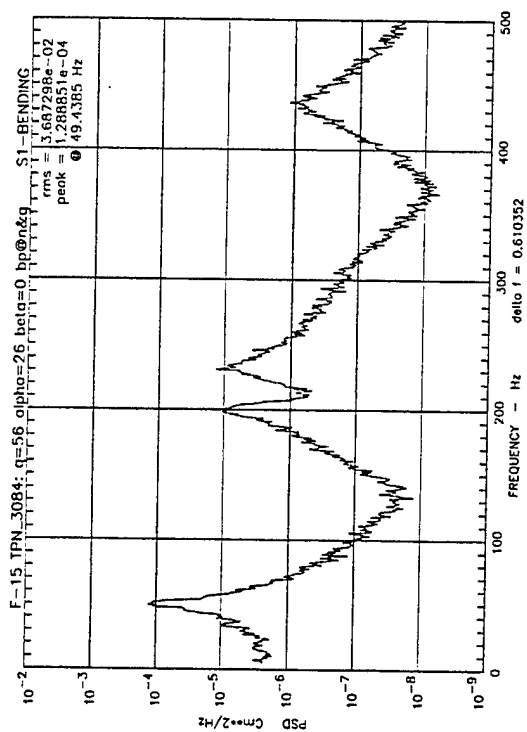
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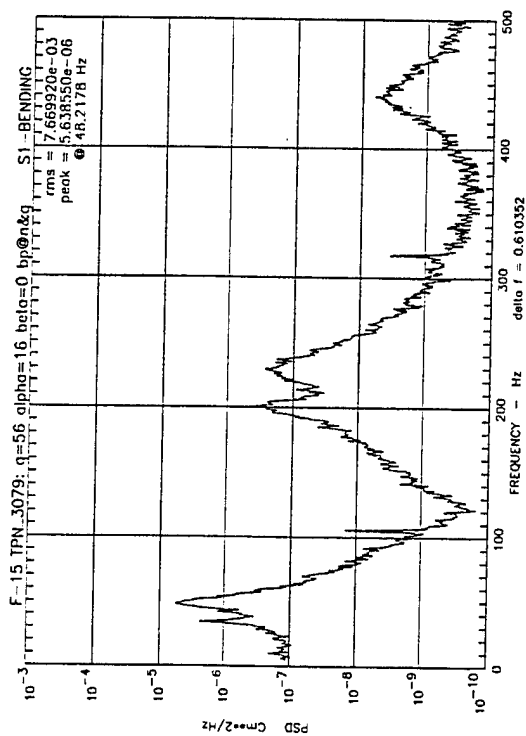
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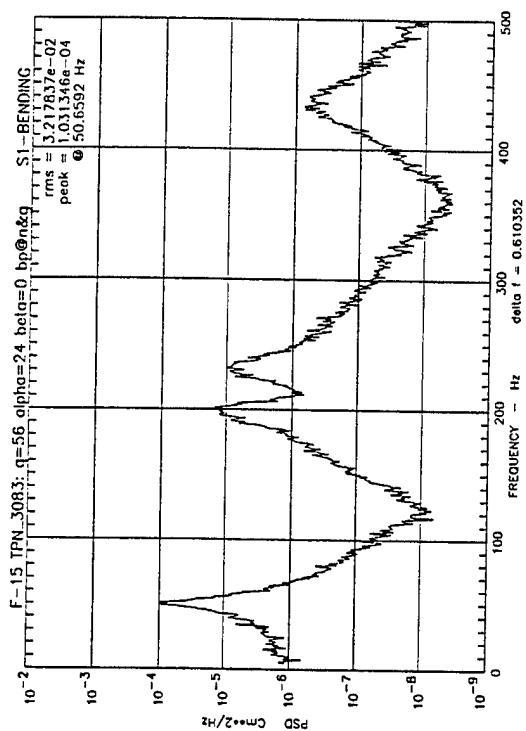
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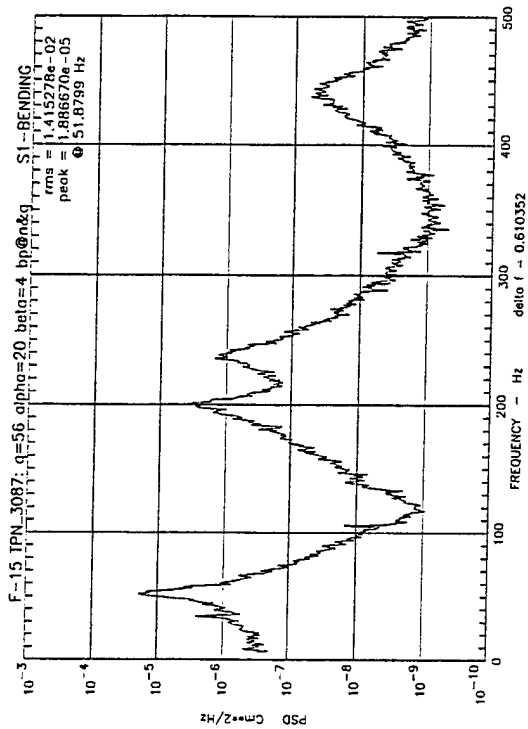
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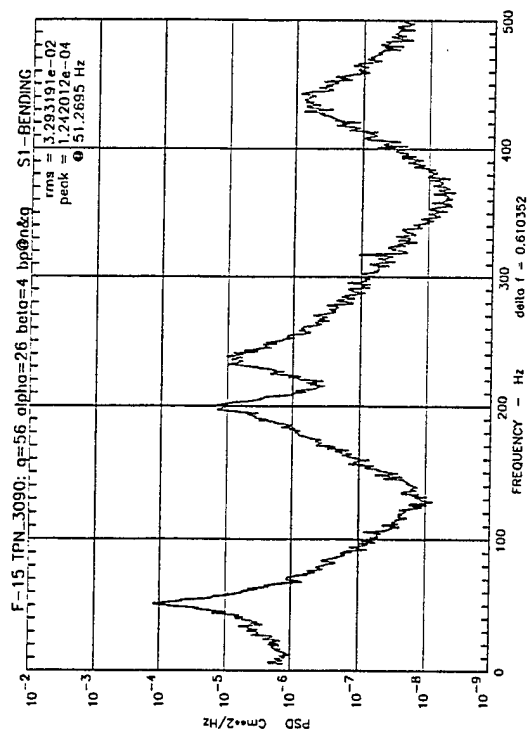
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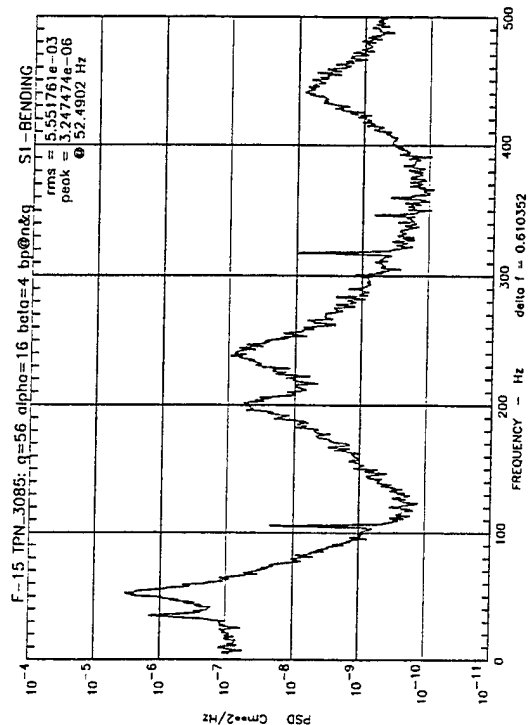
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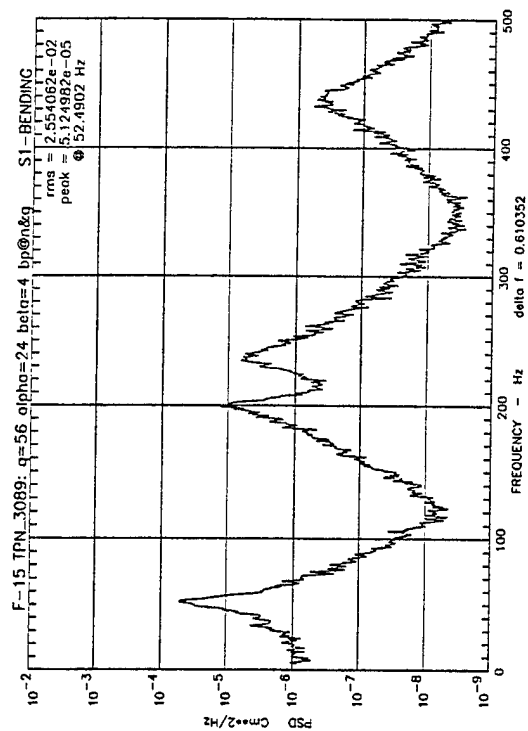
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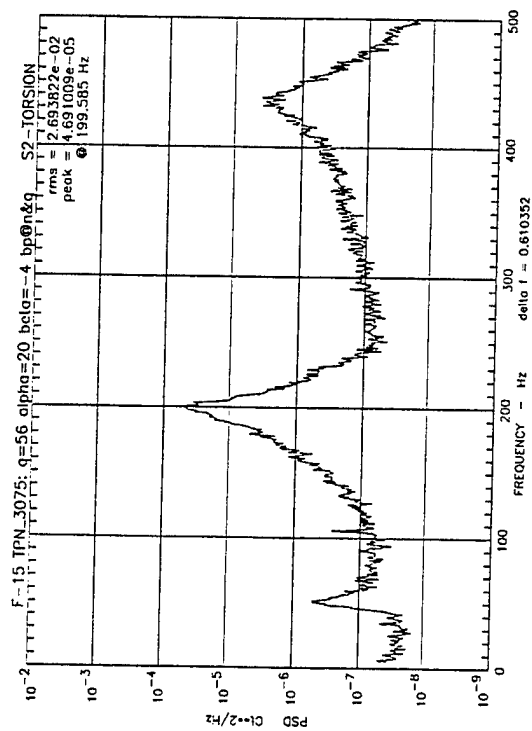
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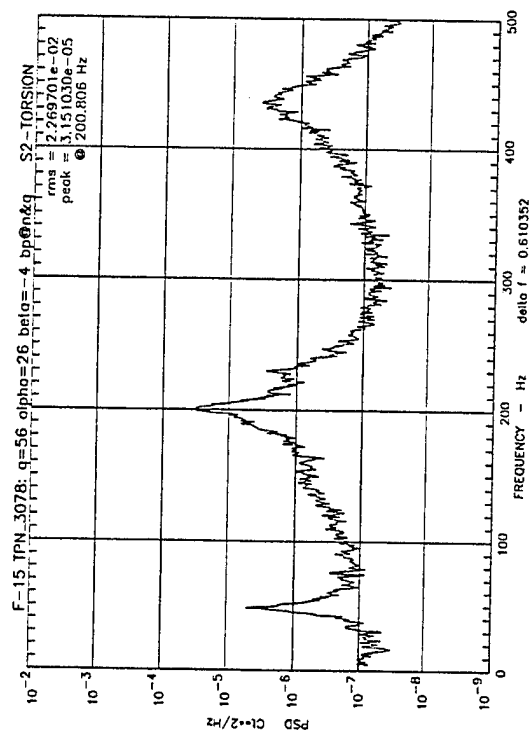
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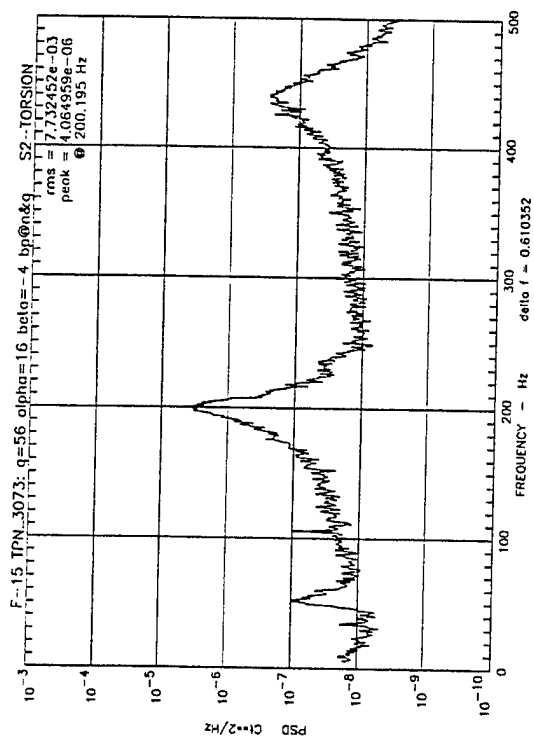
F-15 Tail Buffet Test



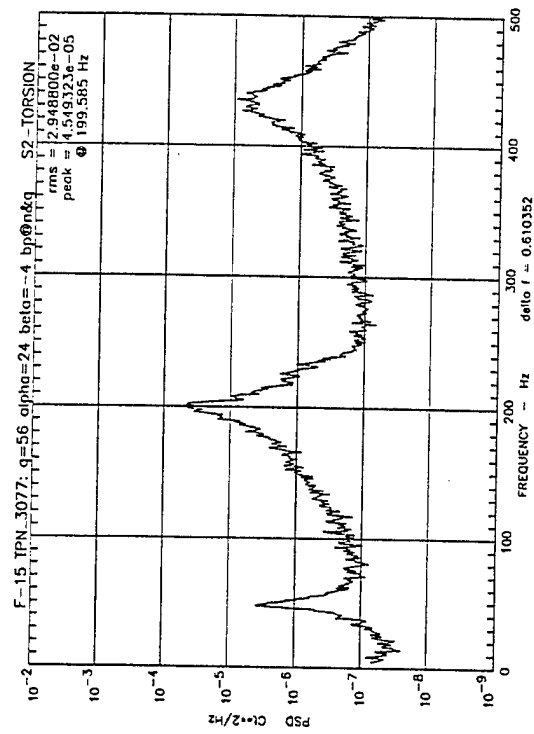
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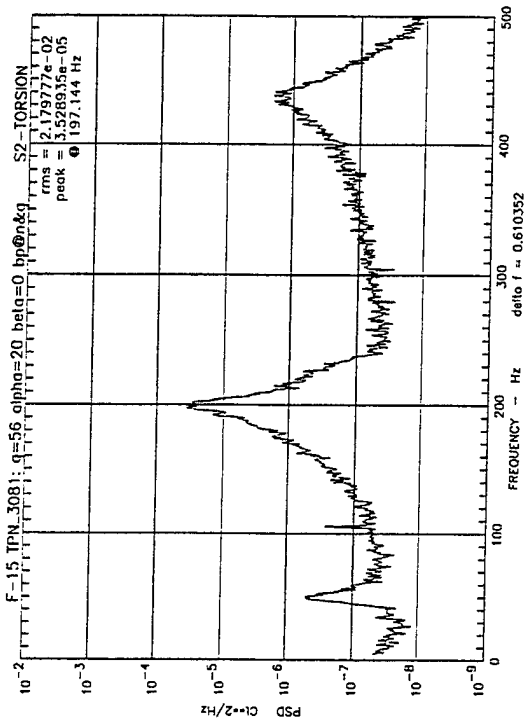
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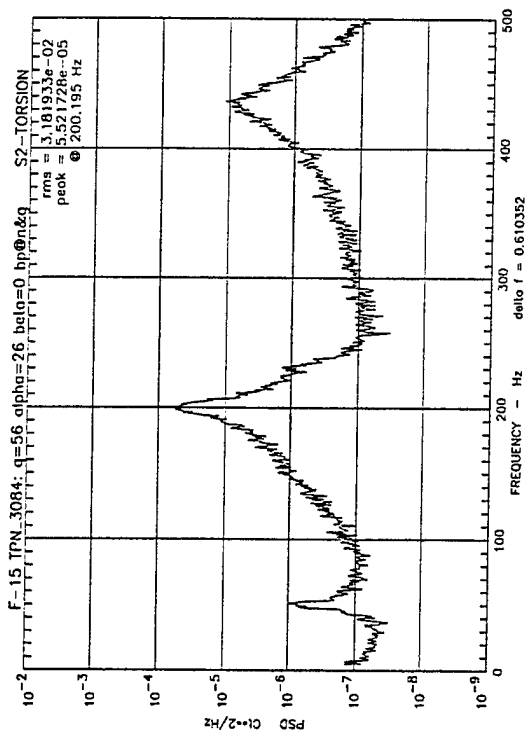
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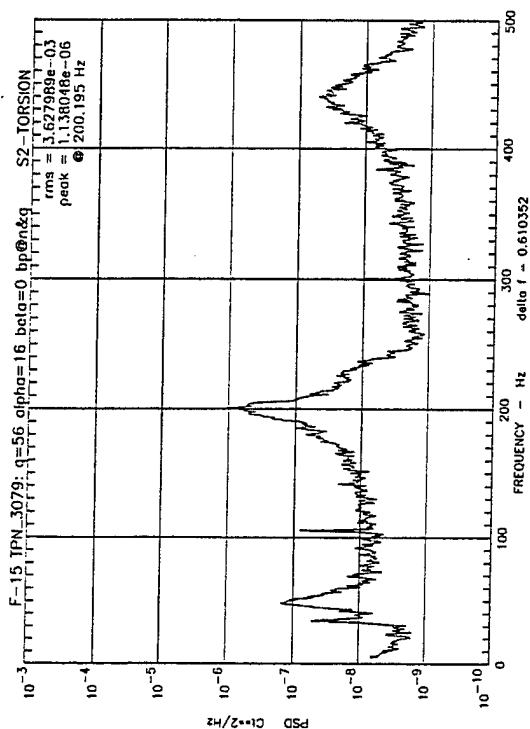
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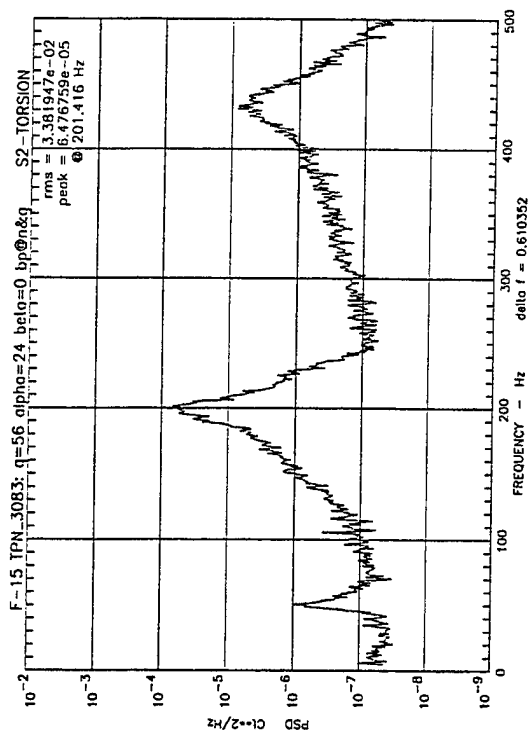
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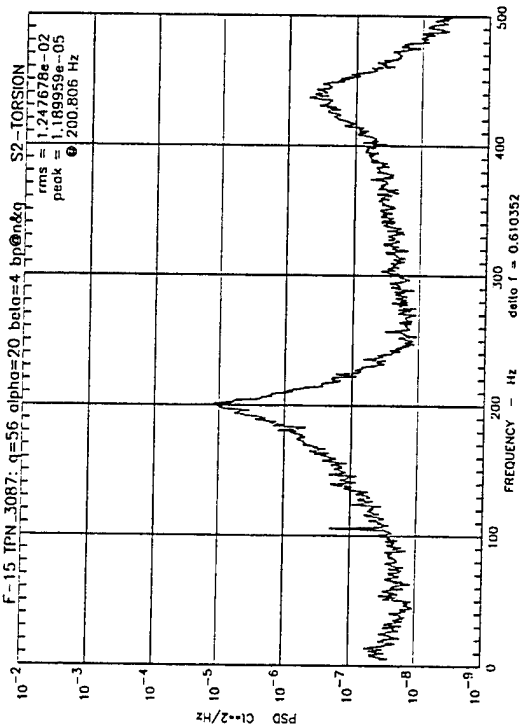
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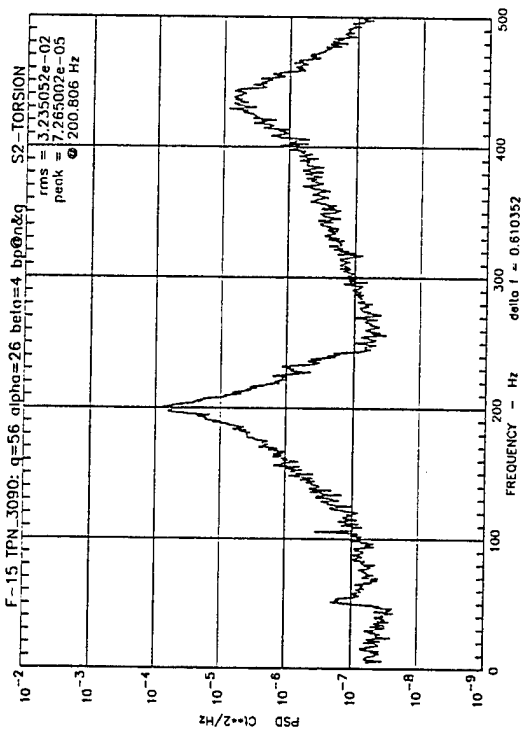
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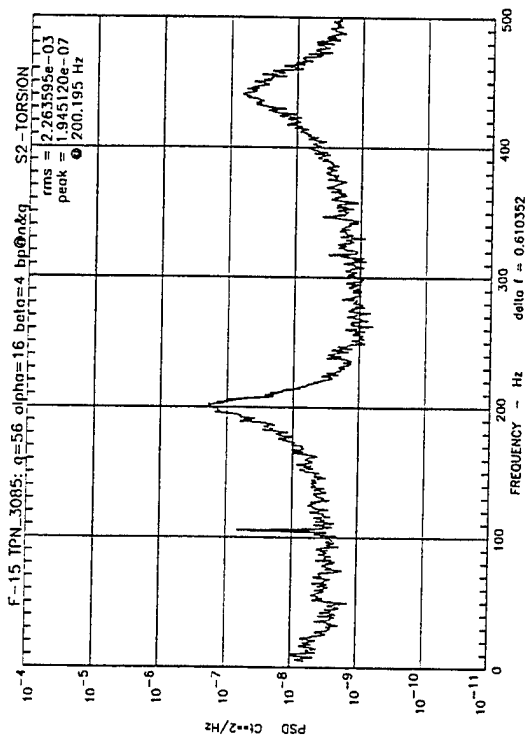
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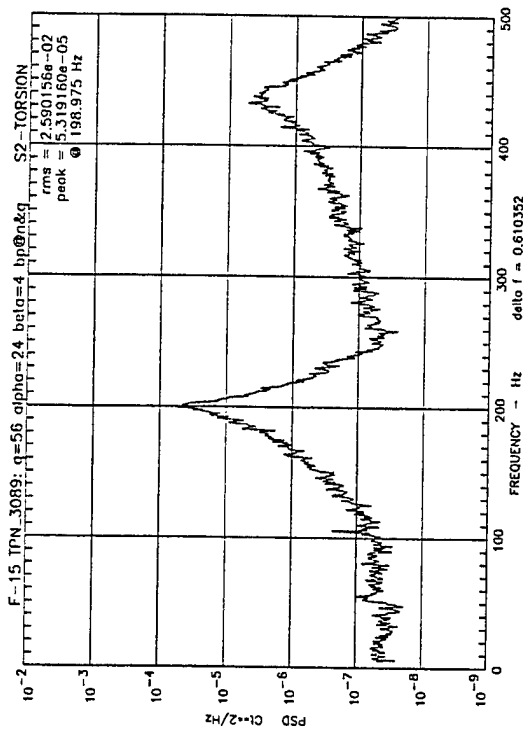
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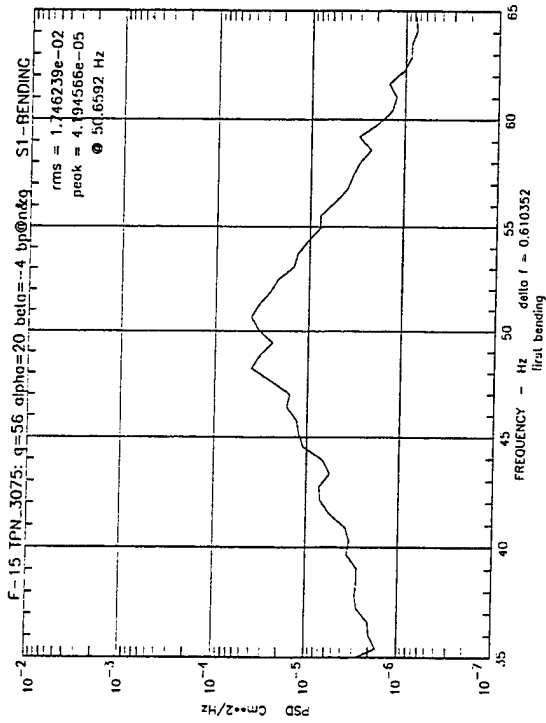
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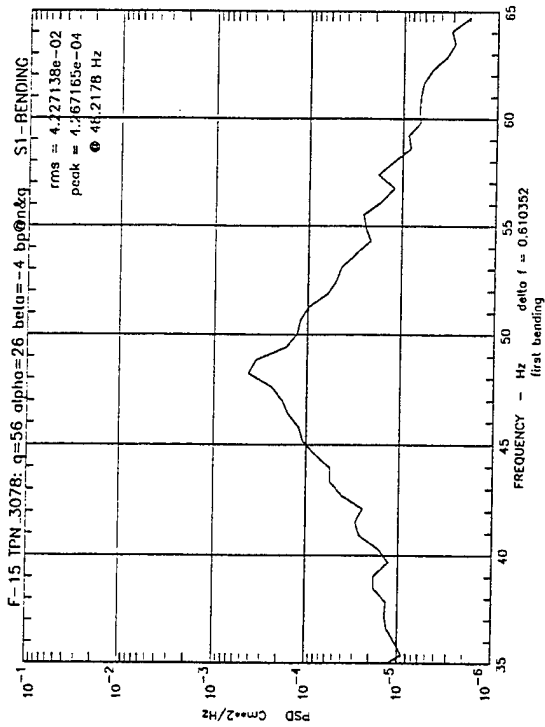
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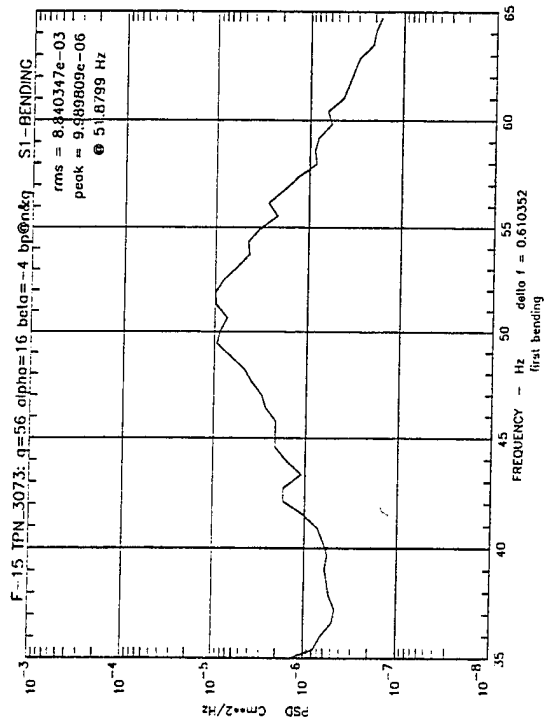
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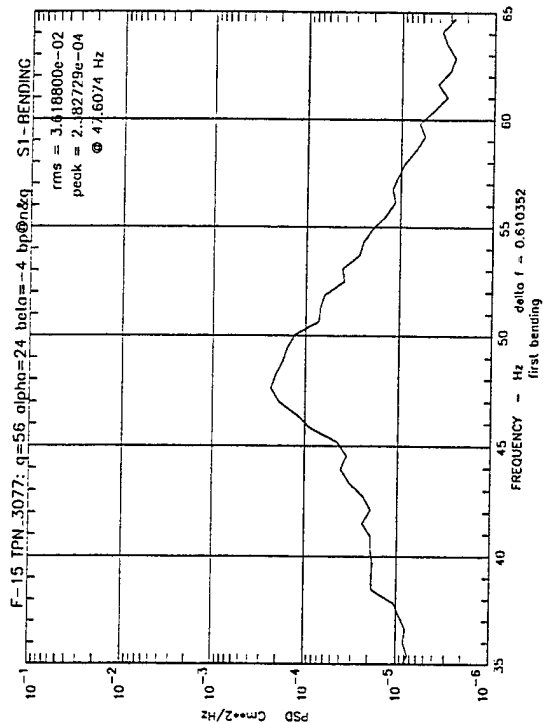
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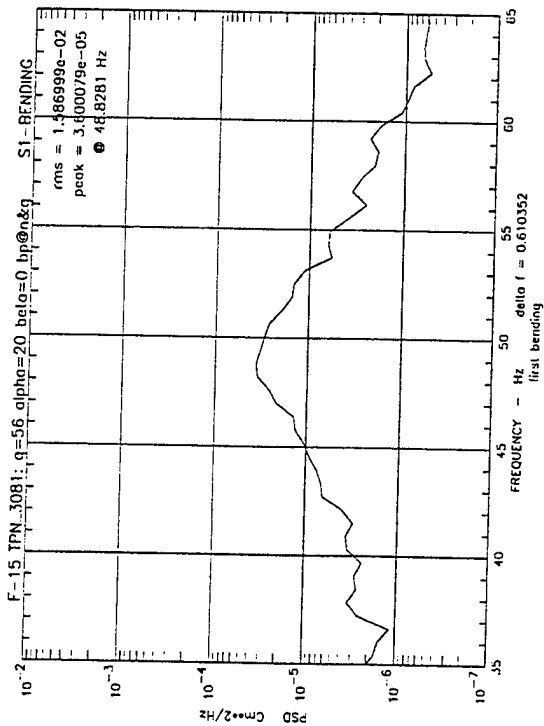
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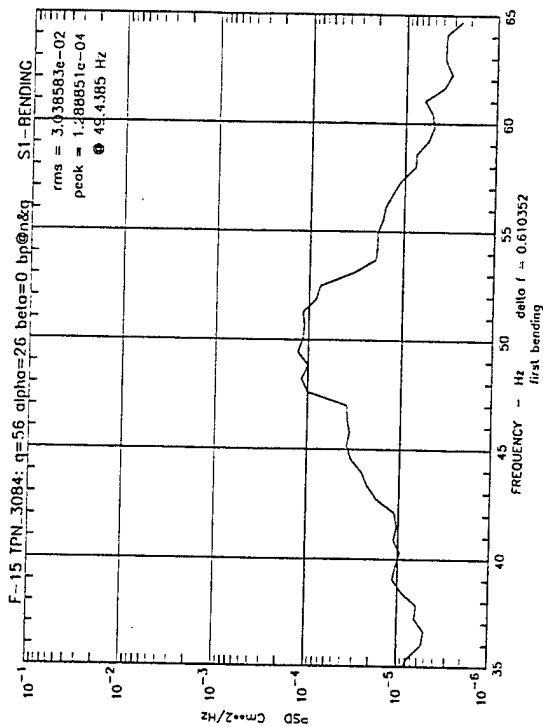
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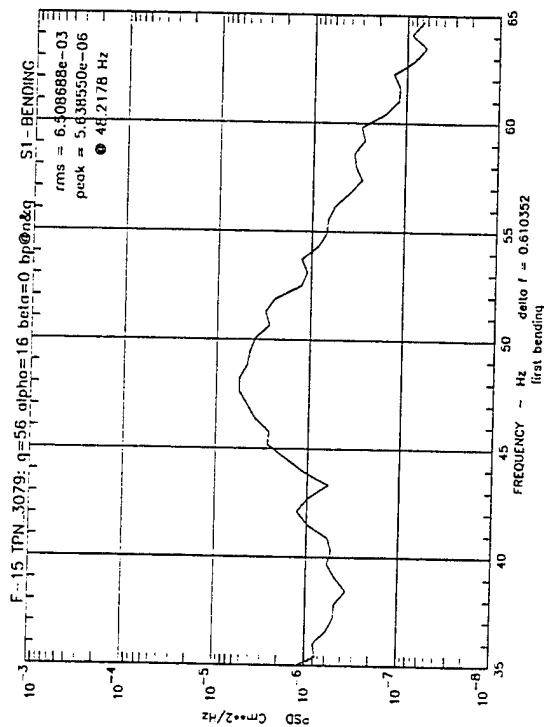
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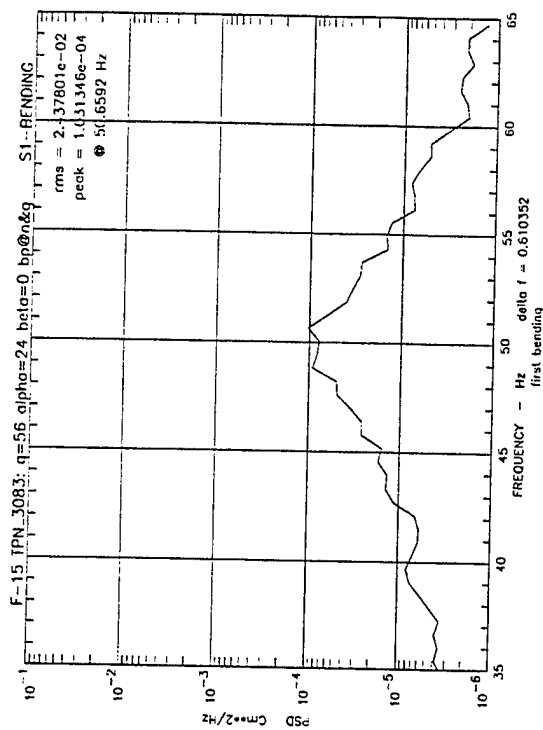
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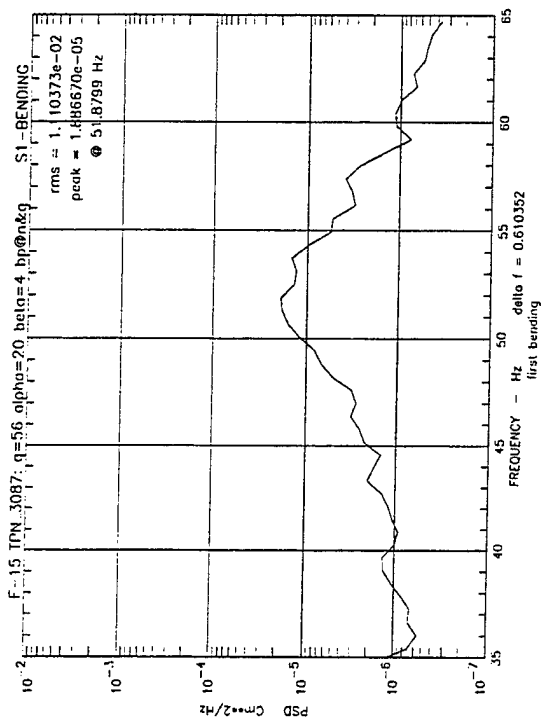
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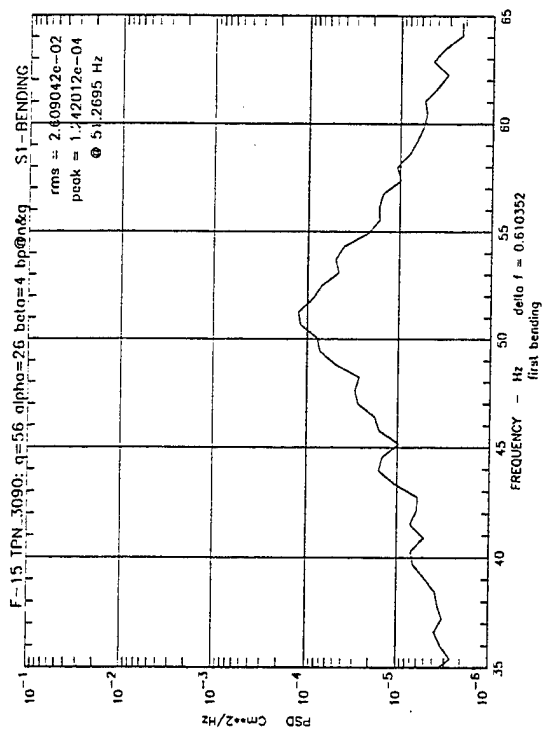
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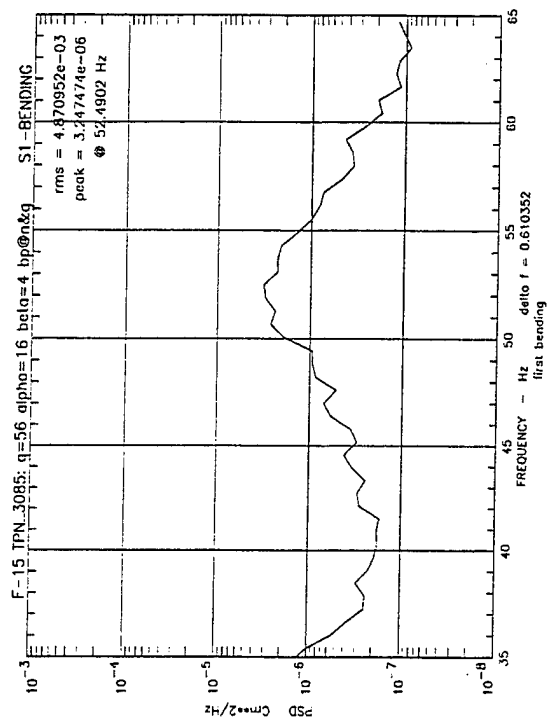
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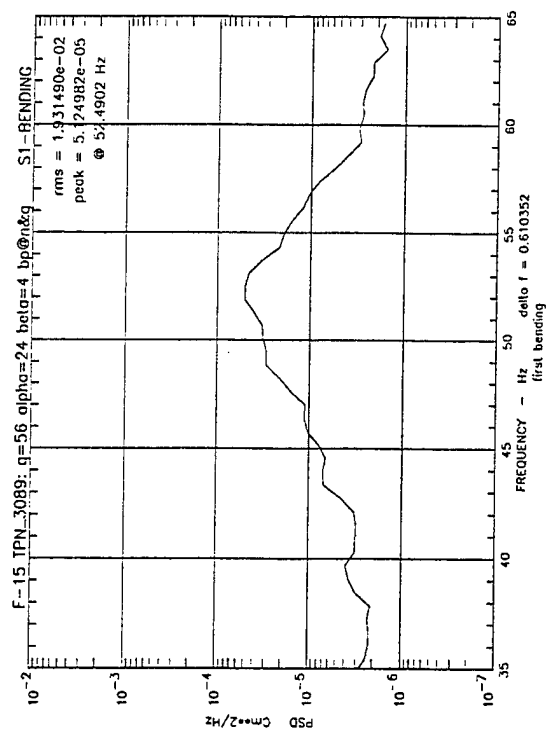
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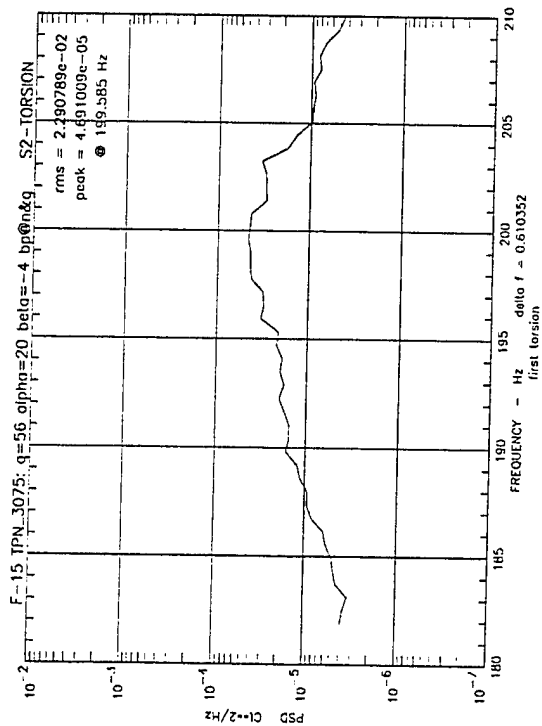
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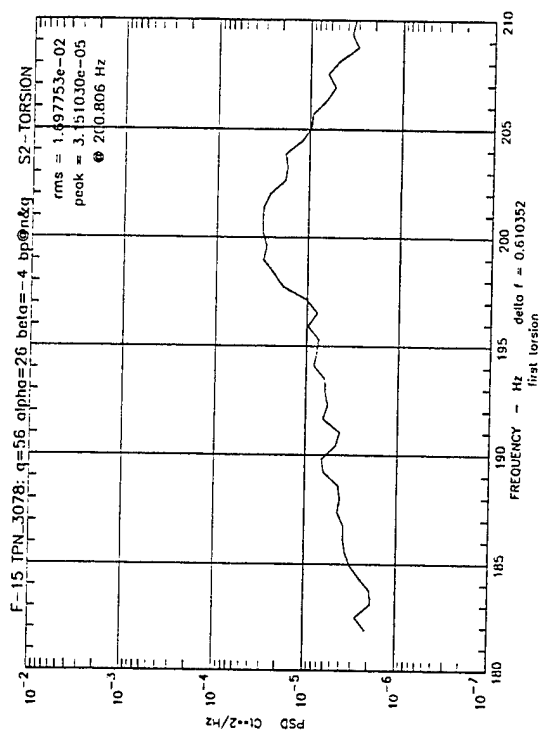
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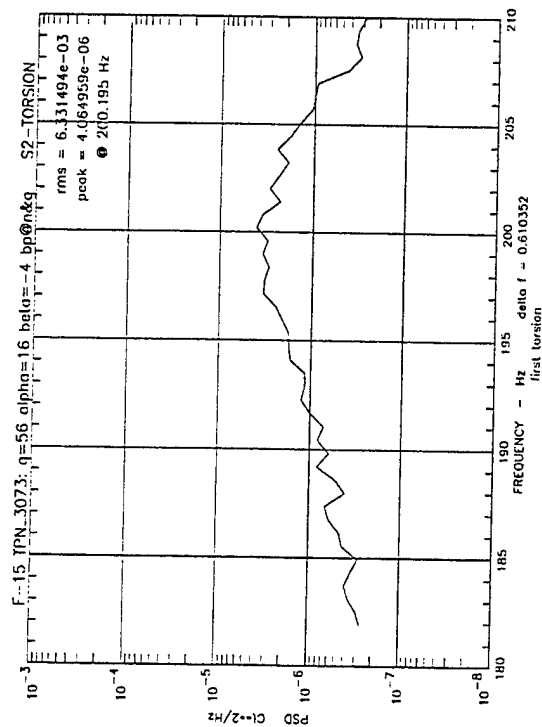
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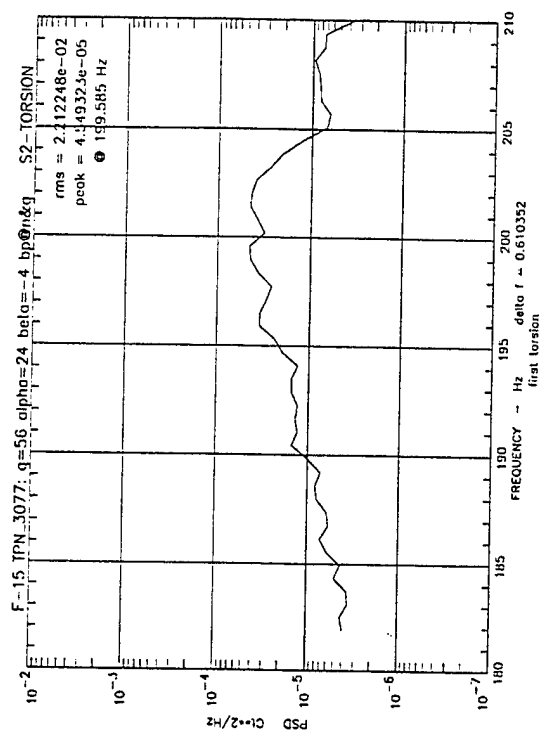
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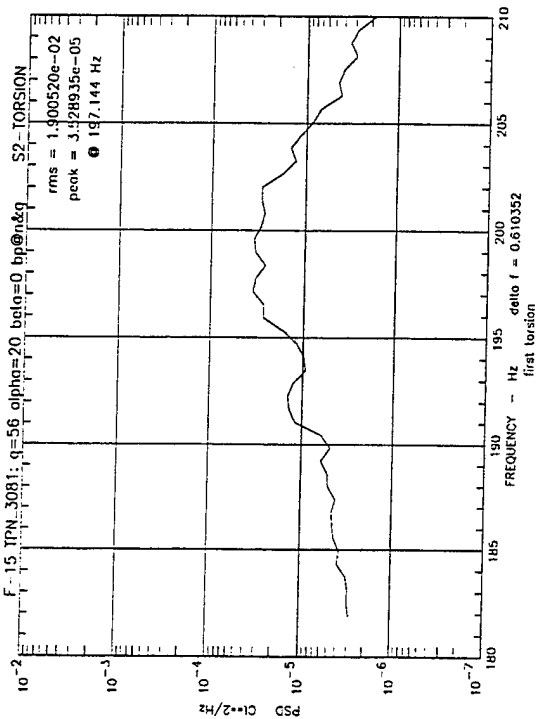
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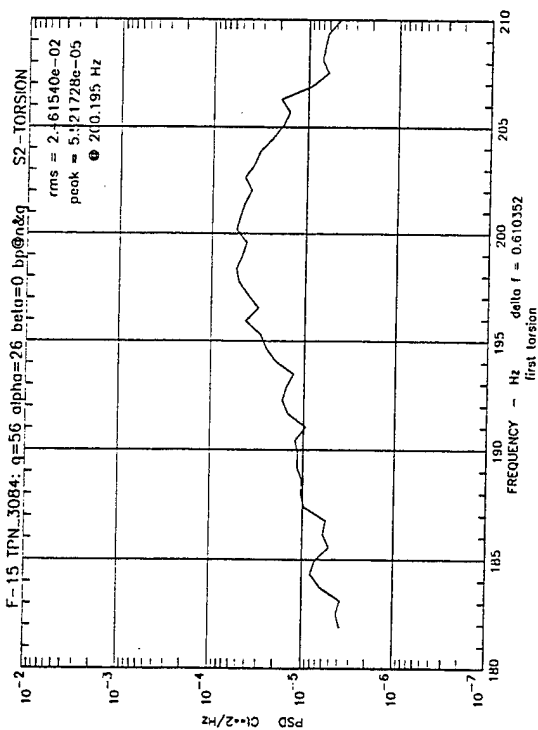
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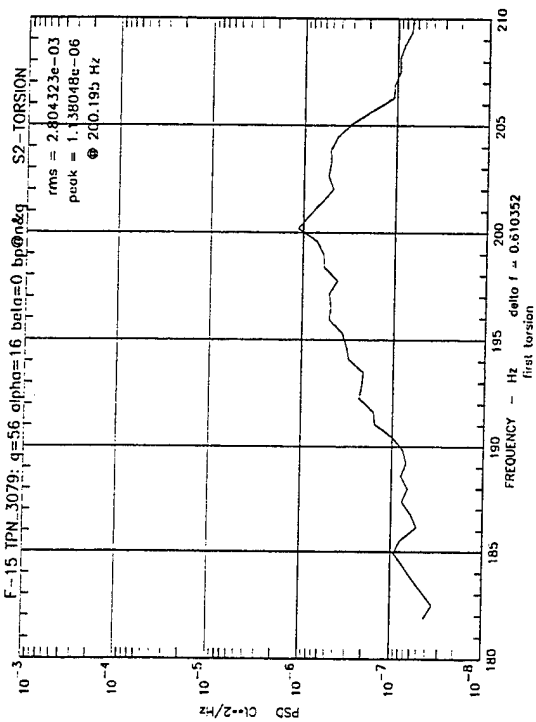
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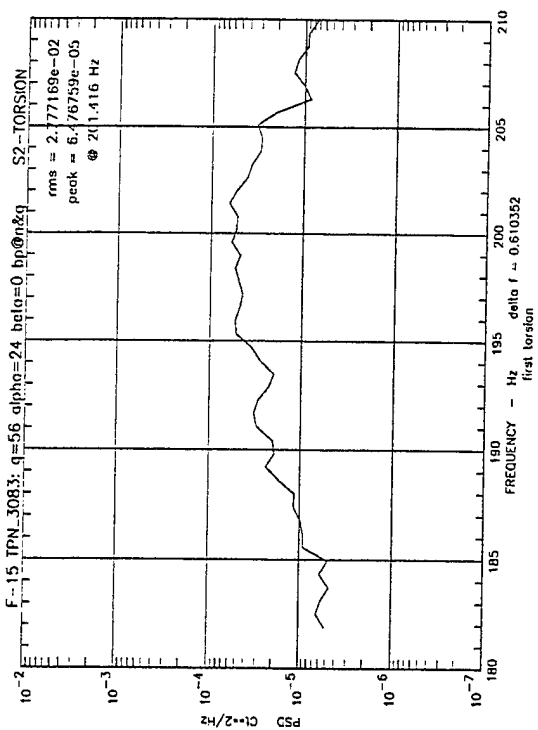
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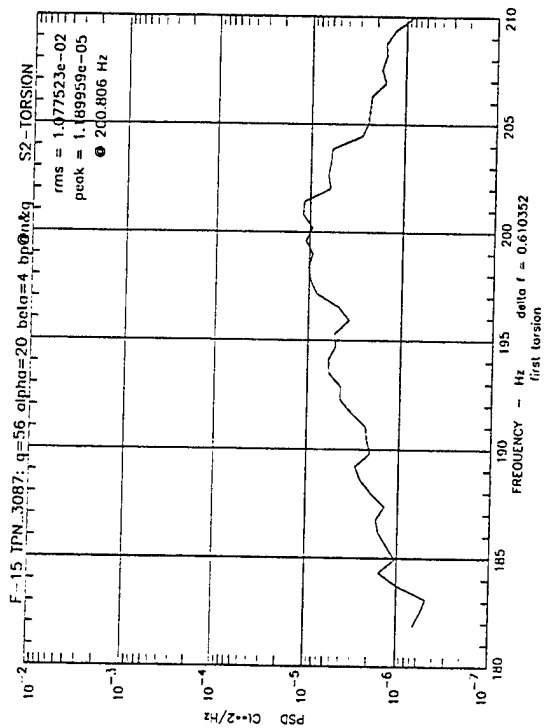
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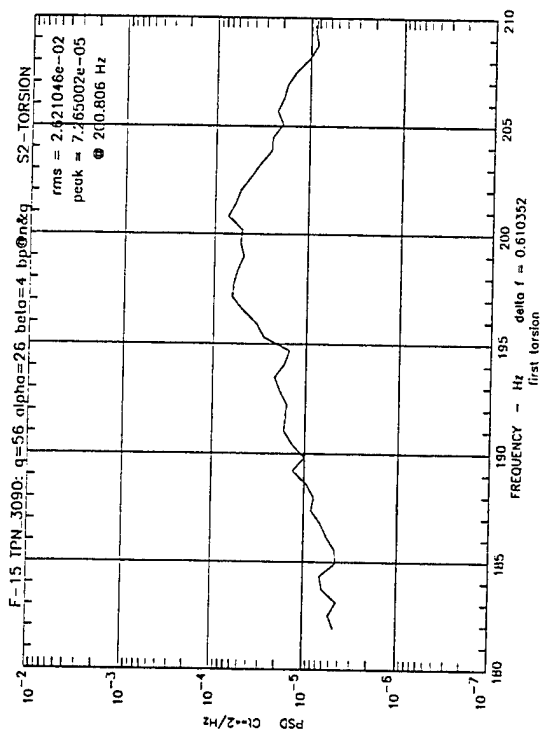
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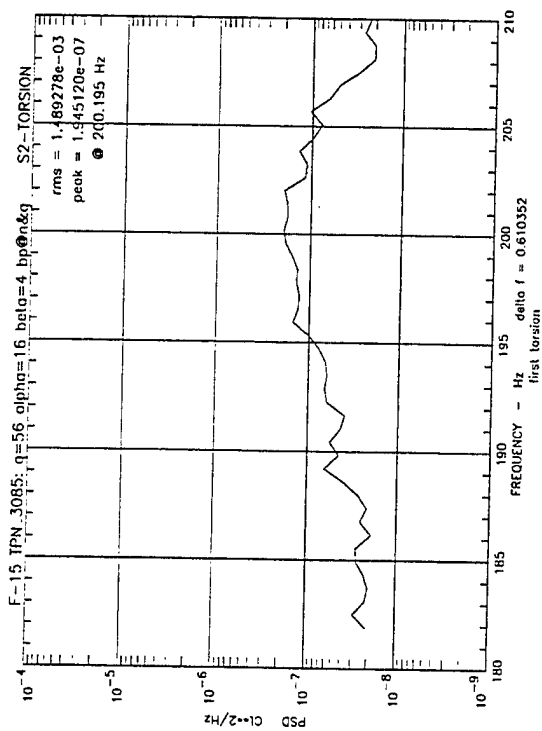
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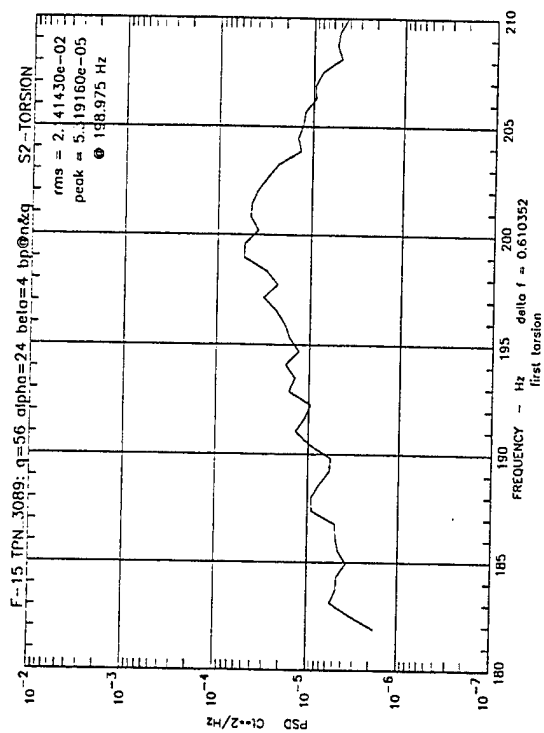
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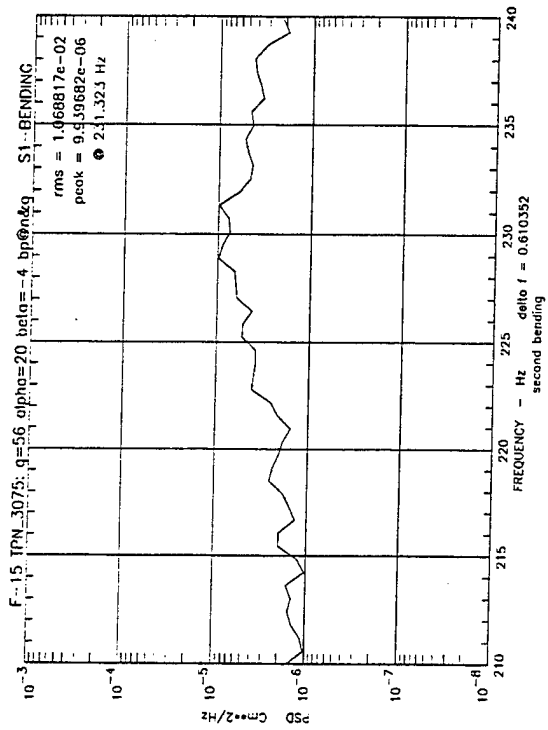
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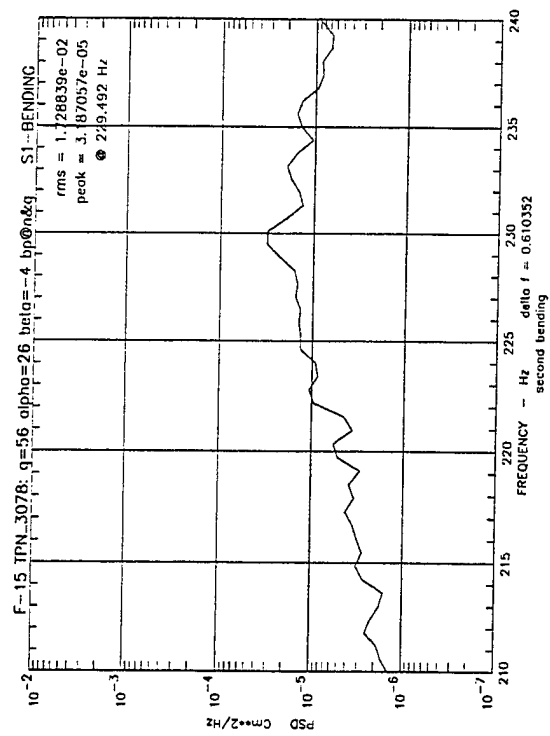
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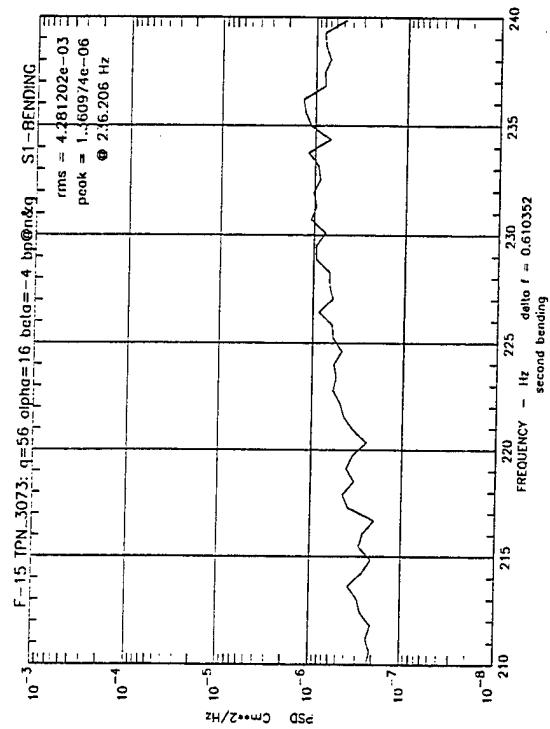
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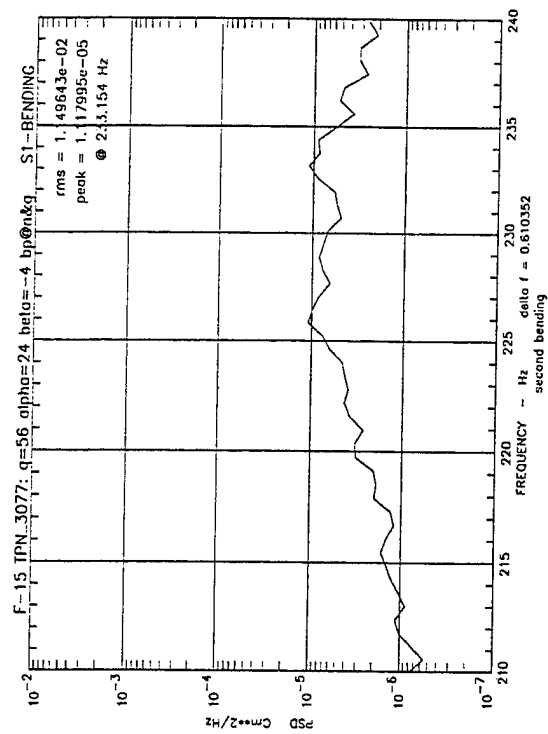
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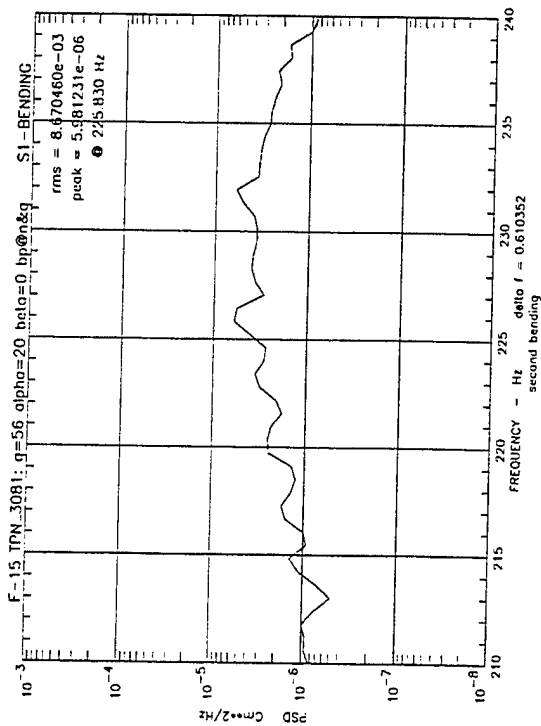
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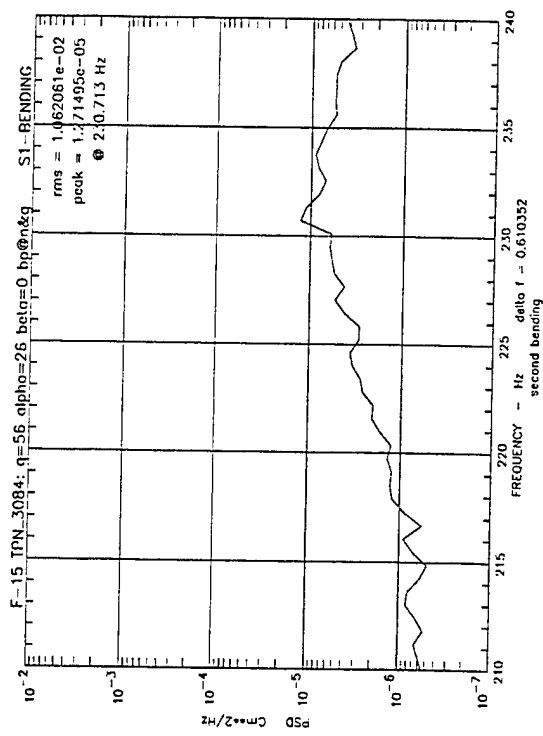
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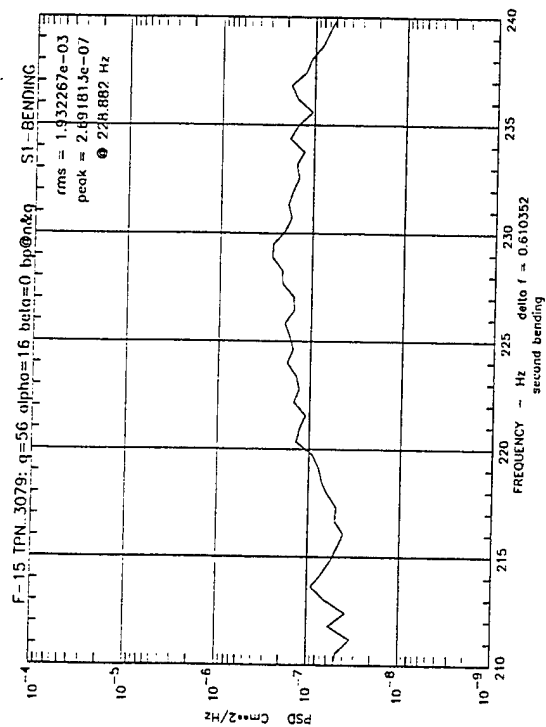
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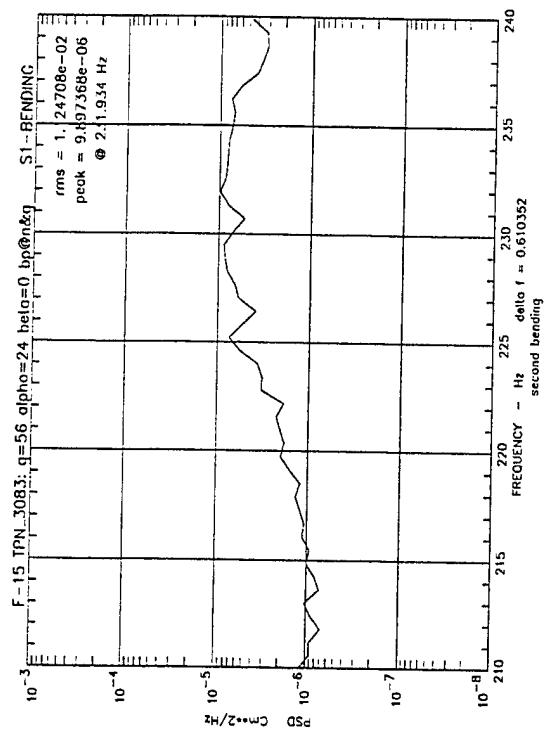
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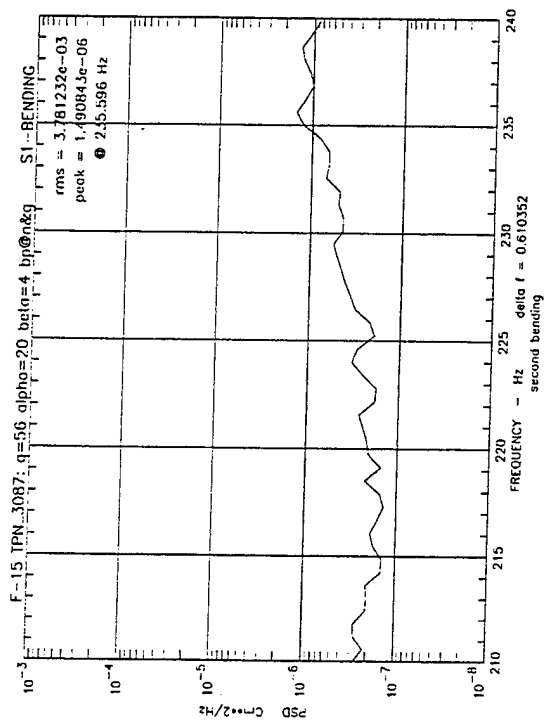
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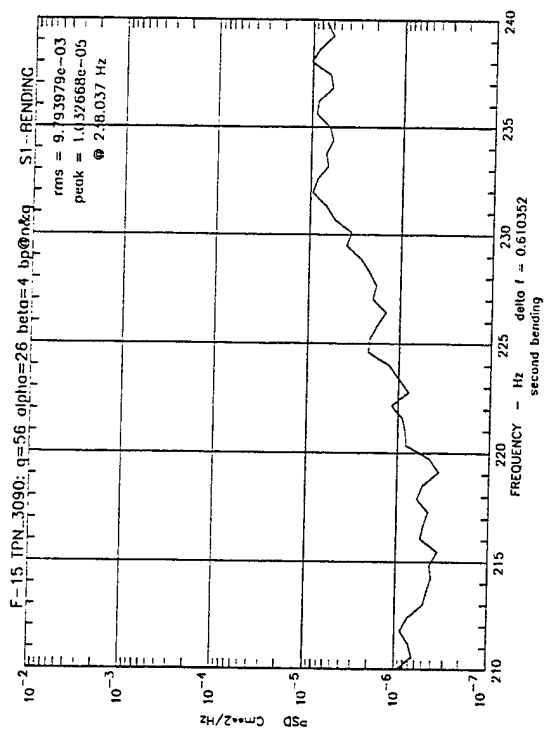
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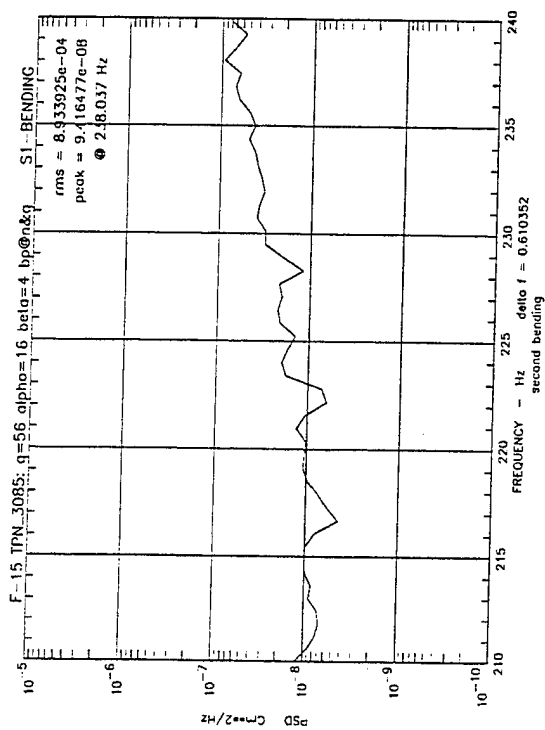
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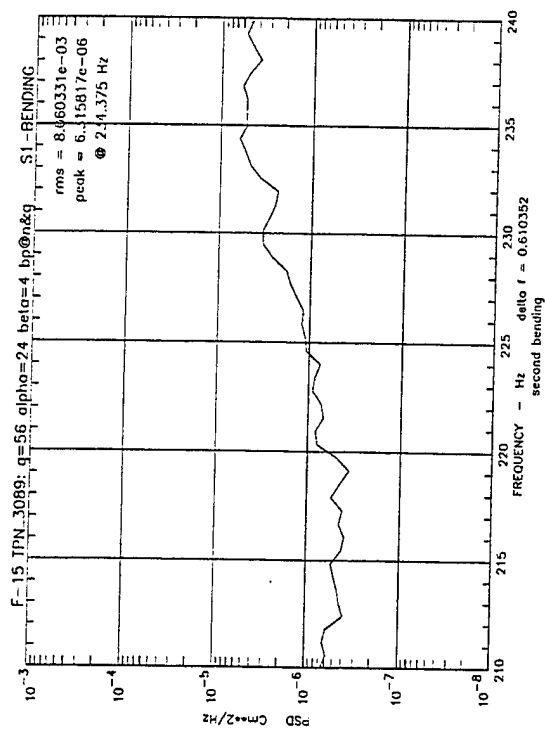
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F-15 Tail Buffet Test



F-15 Tail Buffet Test

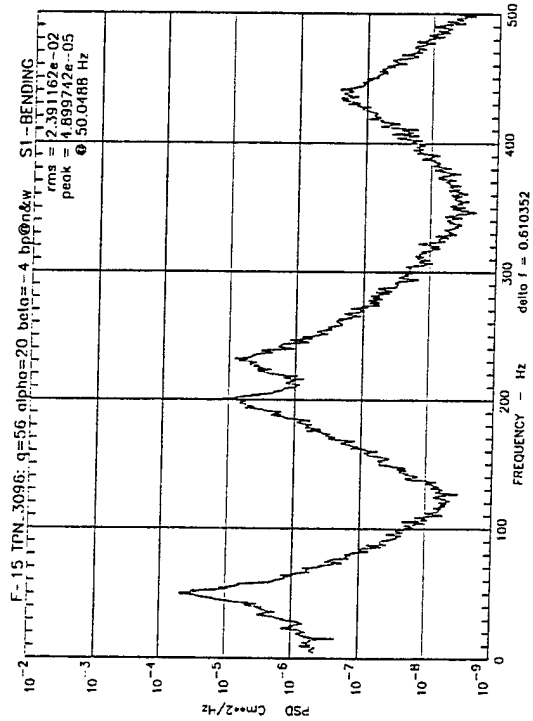


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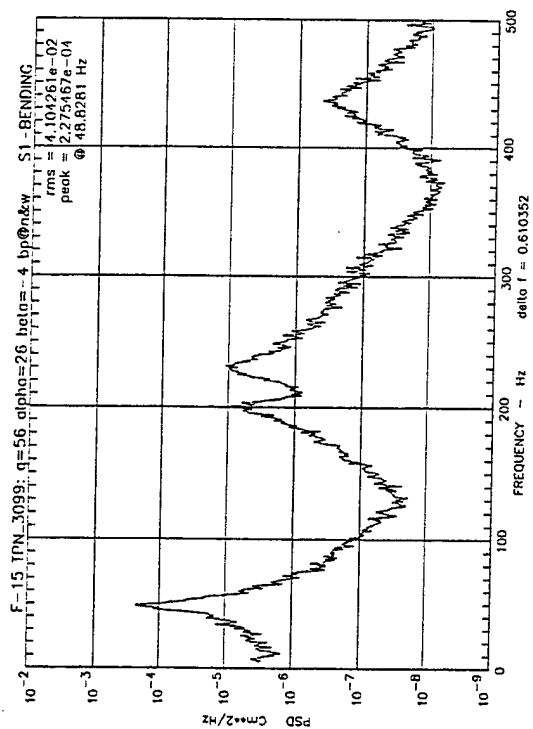
Q= 56PSF

3.1.1.6 NBP = 87 PSI, WBP = 65PSI, BETA = 0, +4, -4 DEG, ALPHA=16....26 DEG

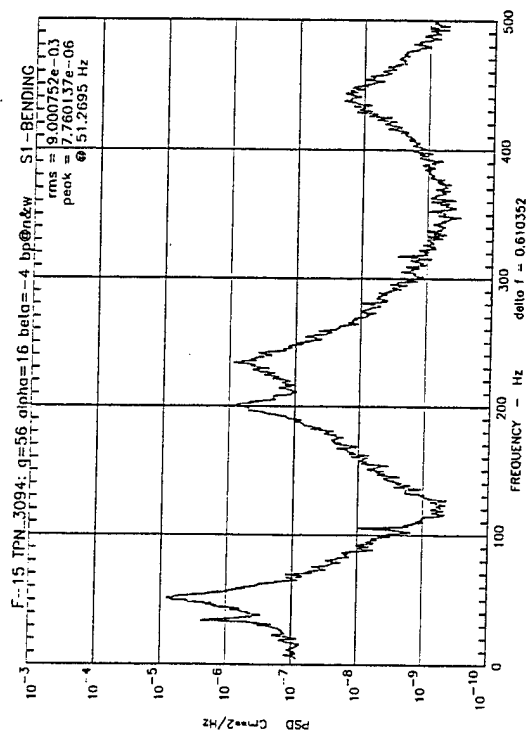
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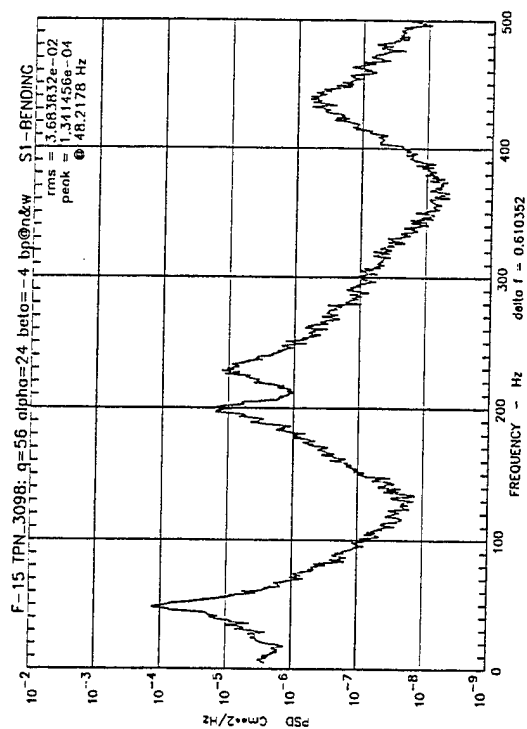
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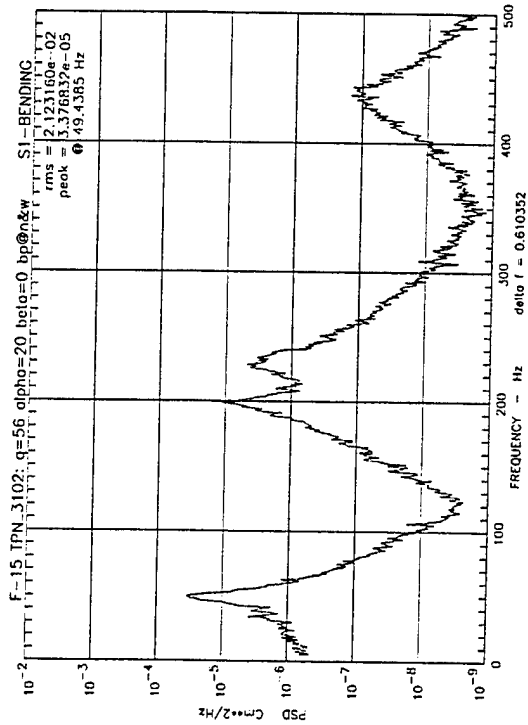
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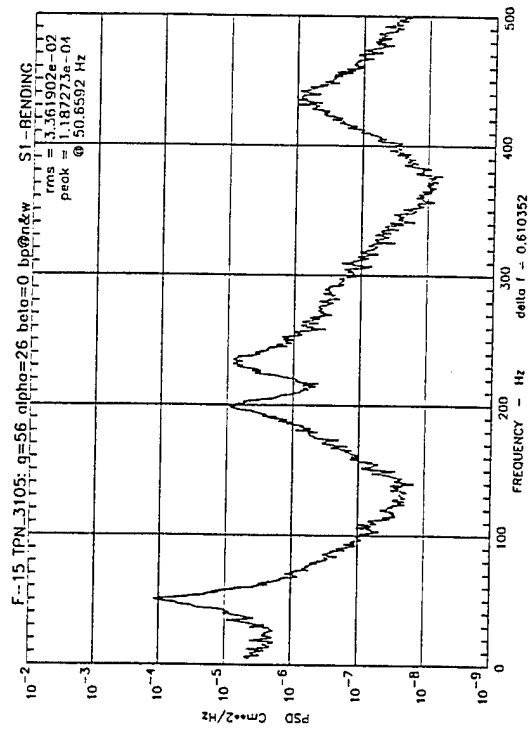
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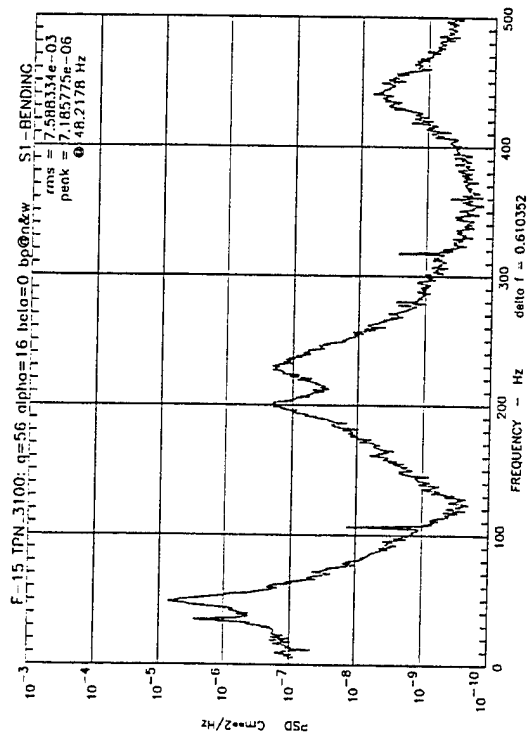
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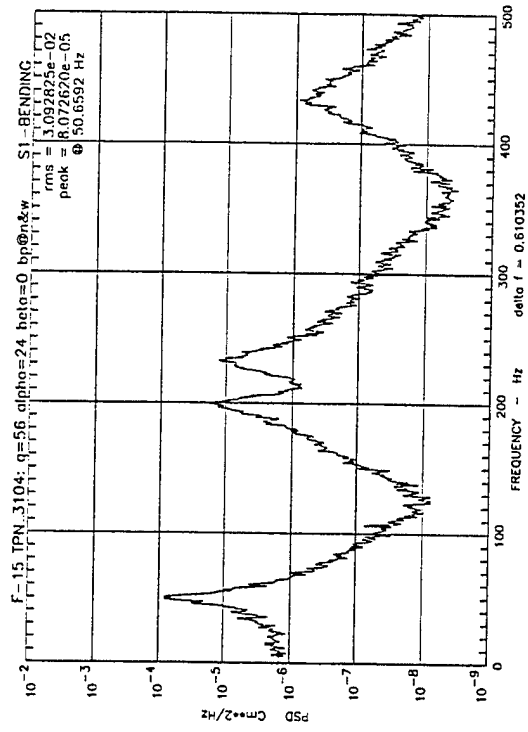
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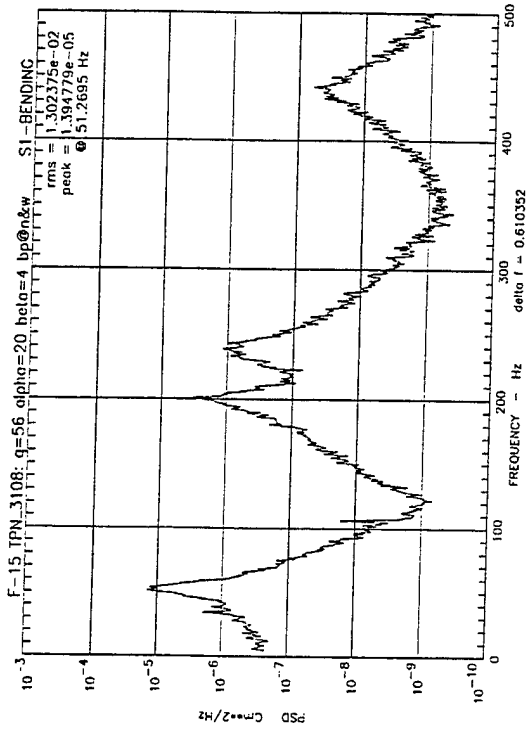
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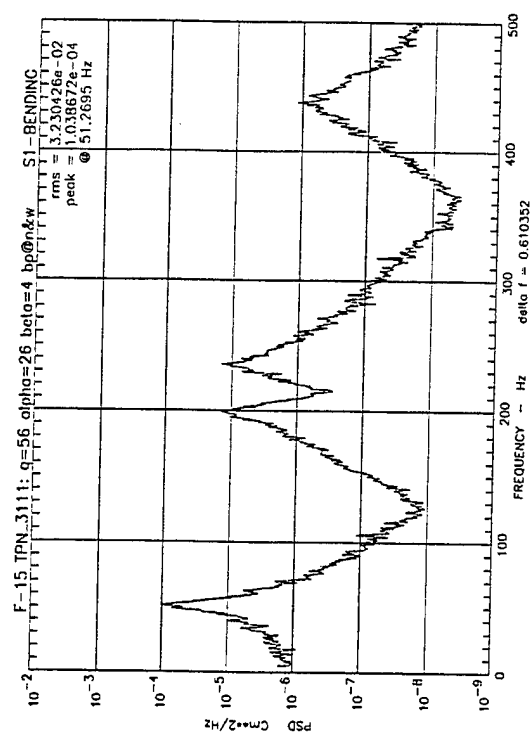
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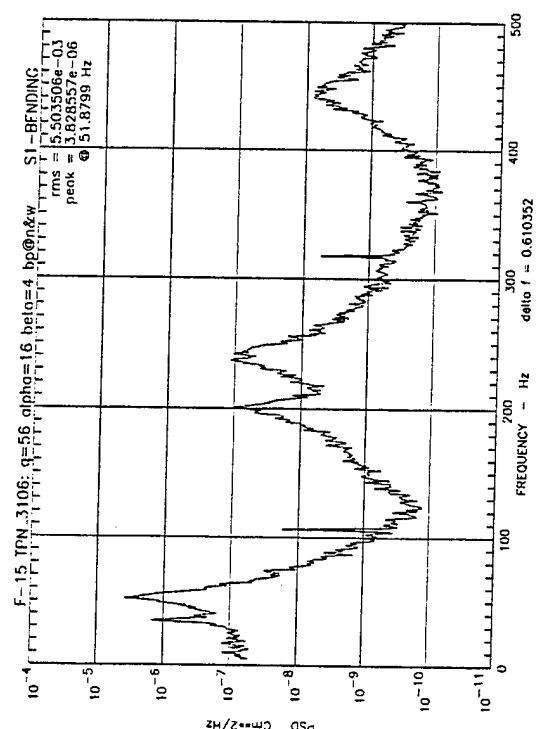
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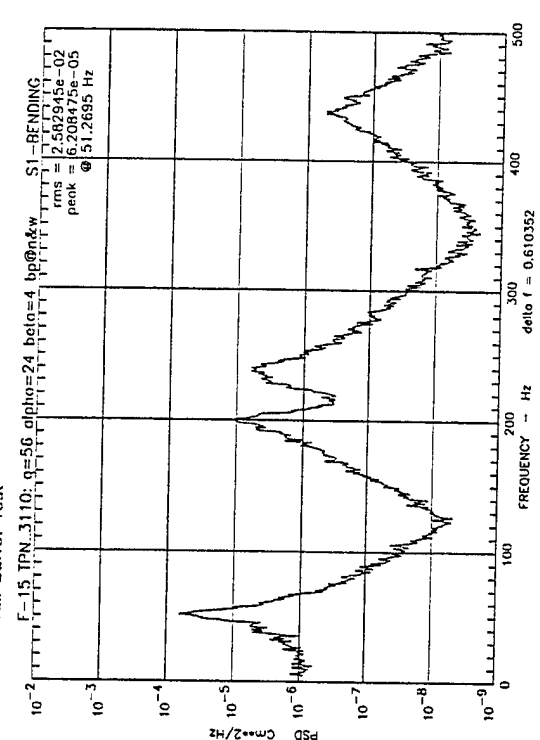
F-15 Tail Buffet Test



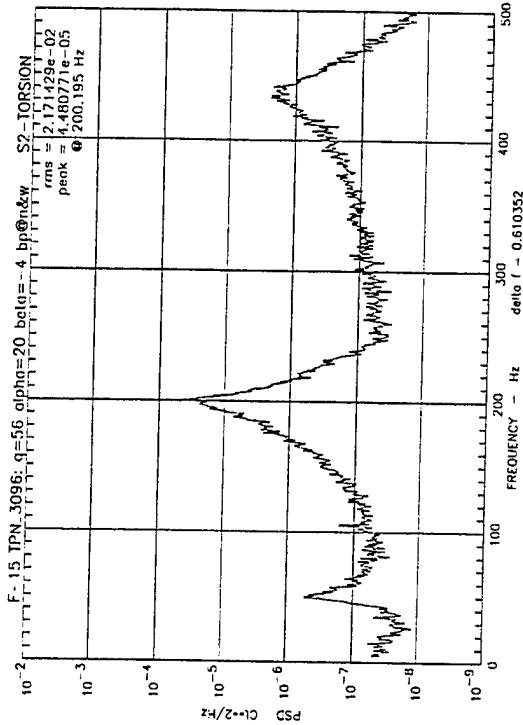
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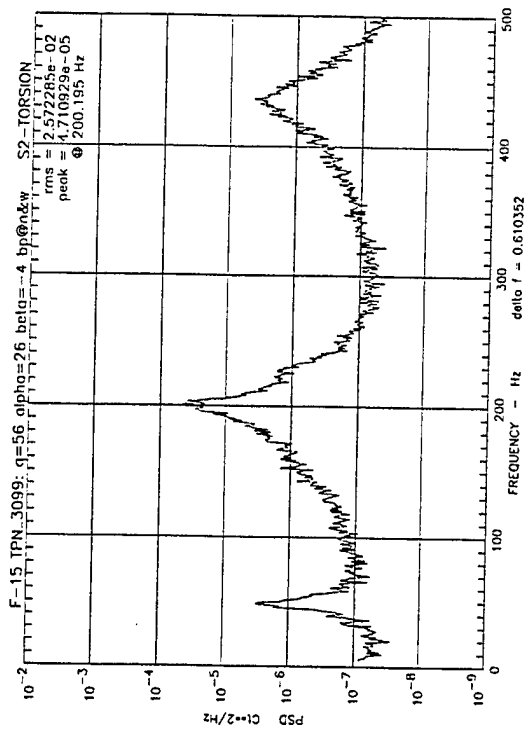
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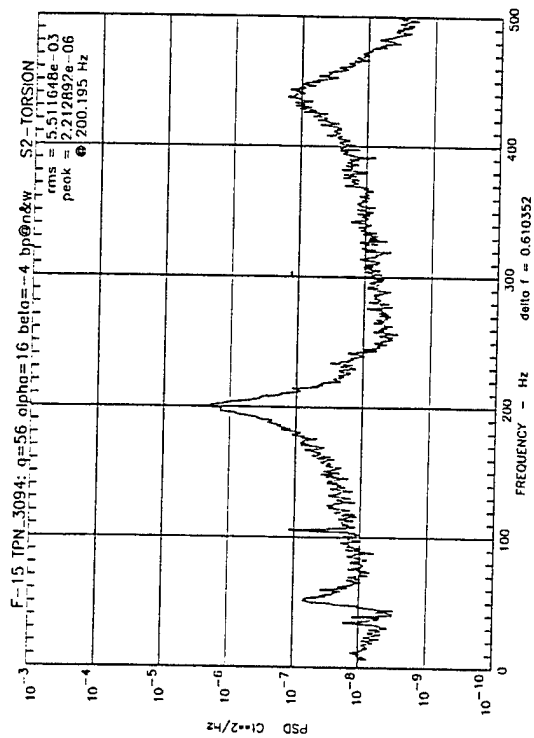
F-15 Tail Buffet Test



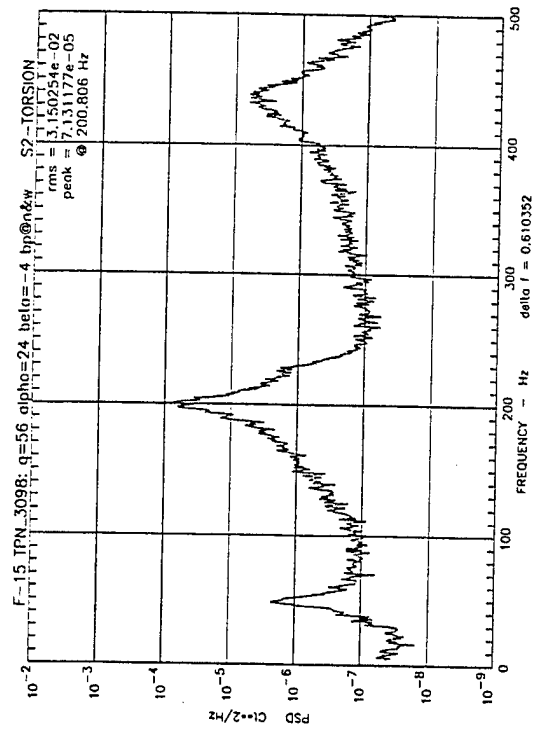
F-15 Tail Buffet Test



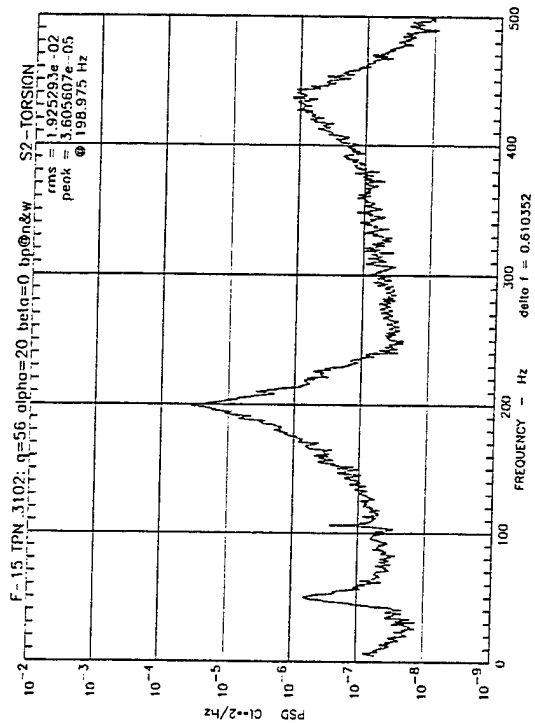
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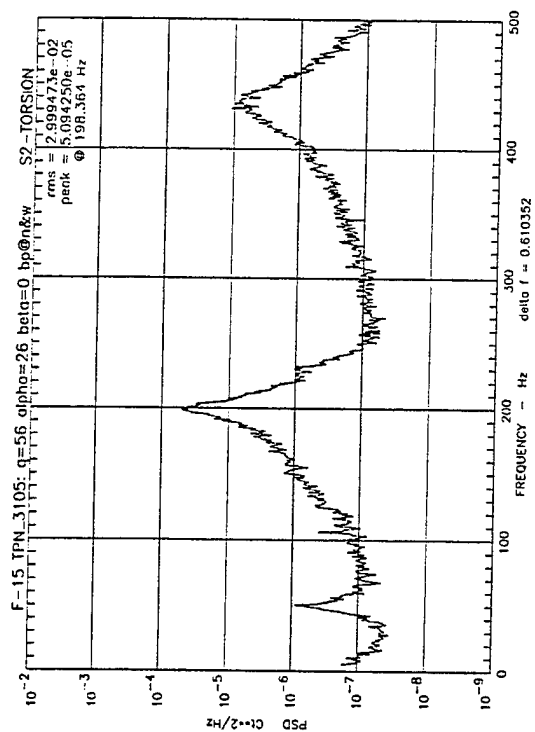
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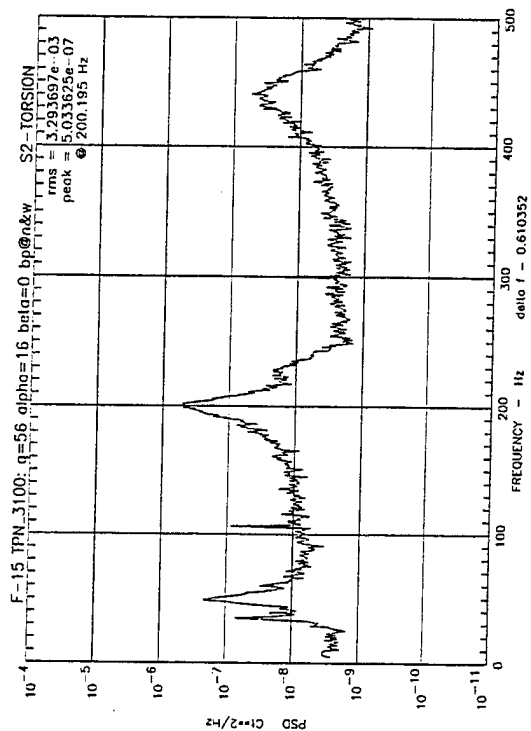
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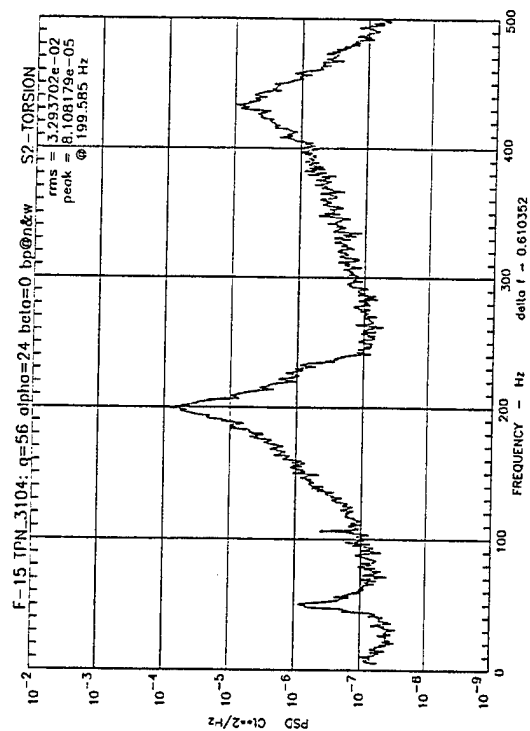
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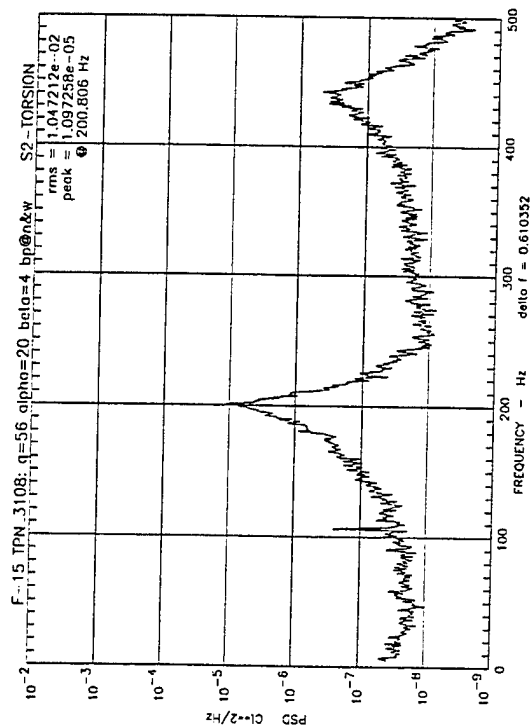
F-15 Tail Buffet Test



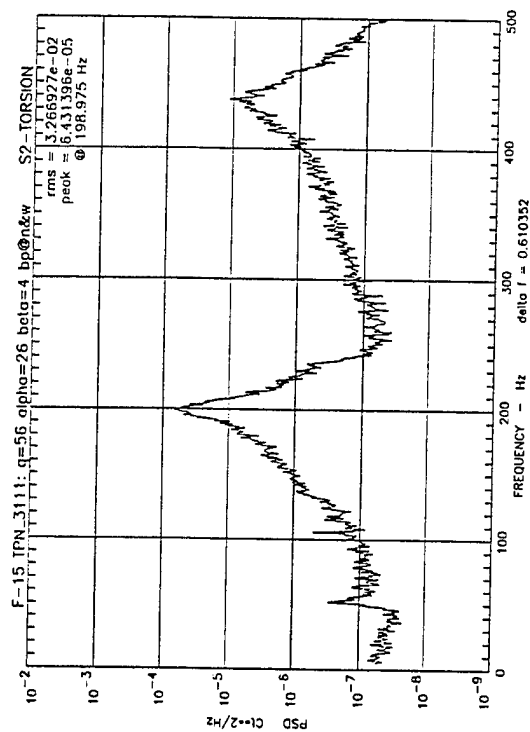
F-15 Tail Buffet Test



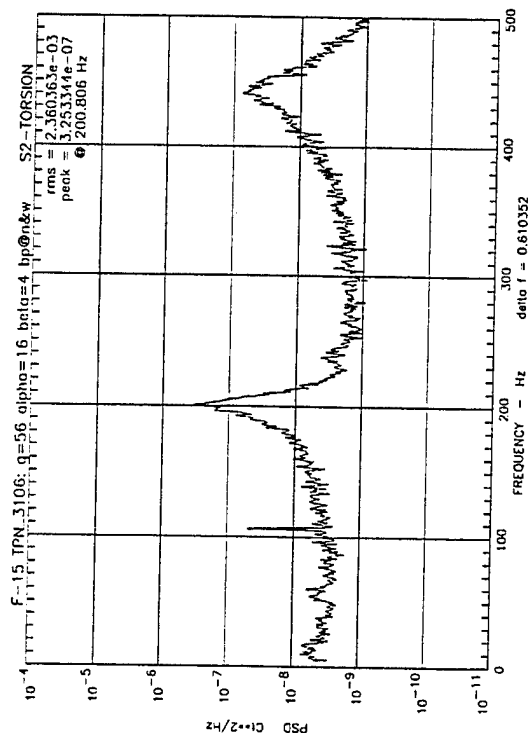
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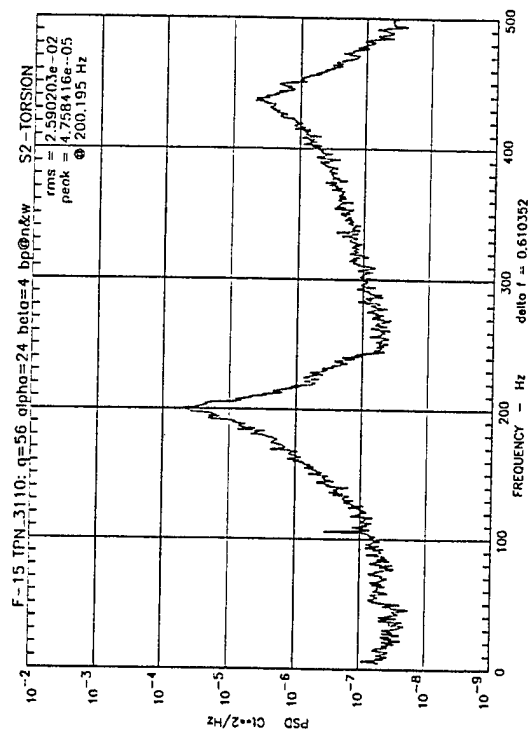
F-15 Tail Buffet Test



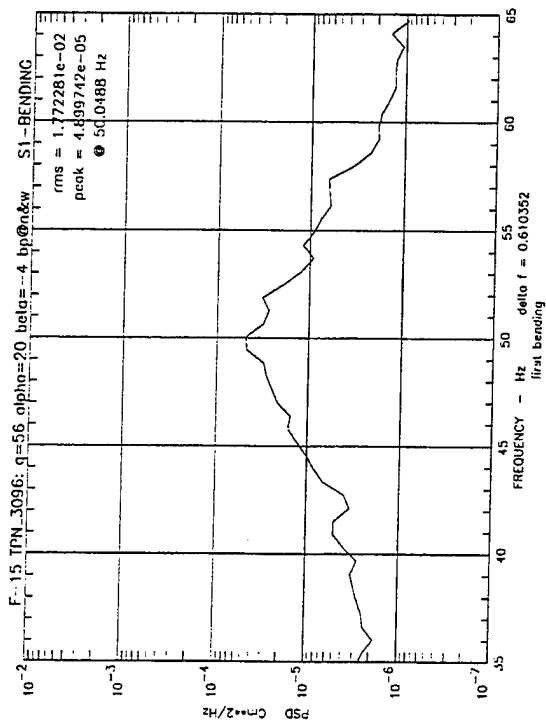
F-15 Tail Buffet Test



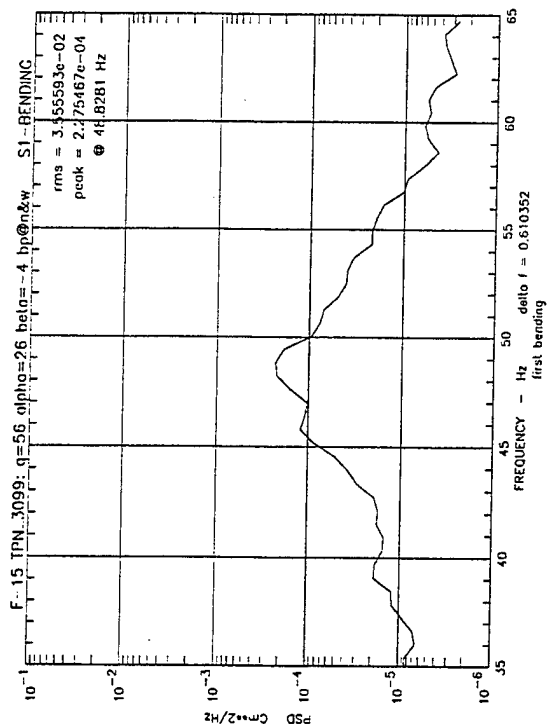
F-15 Tail Buffet Test



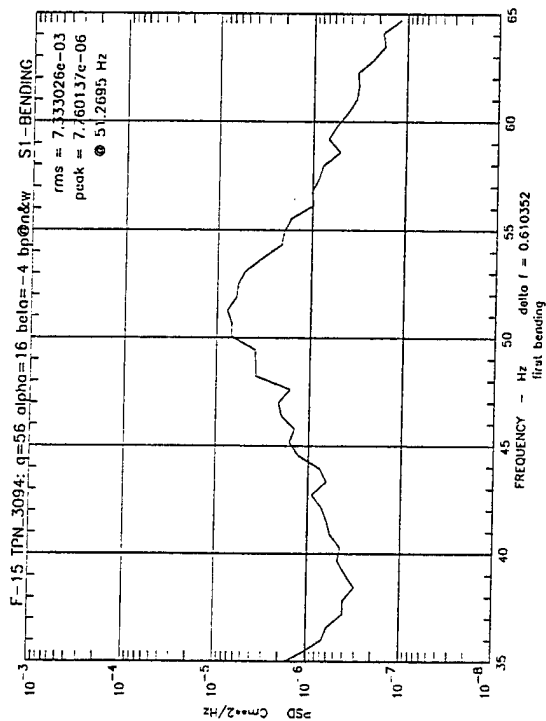
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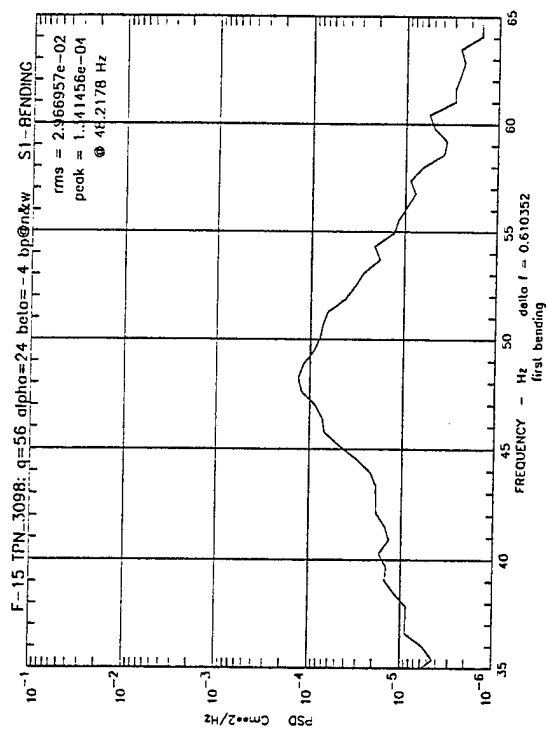
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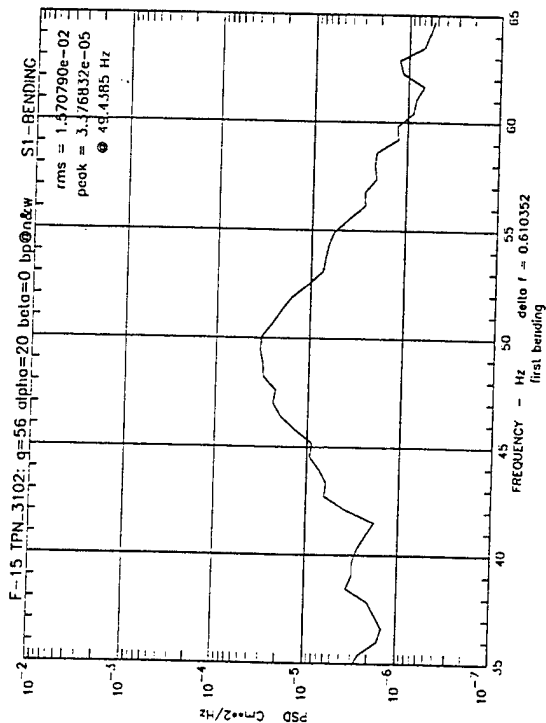
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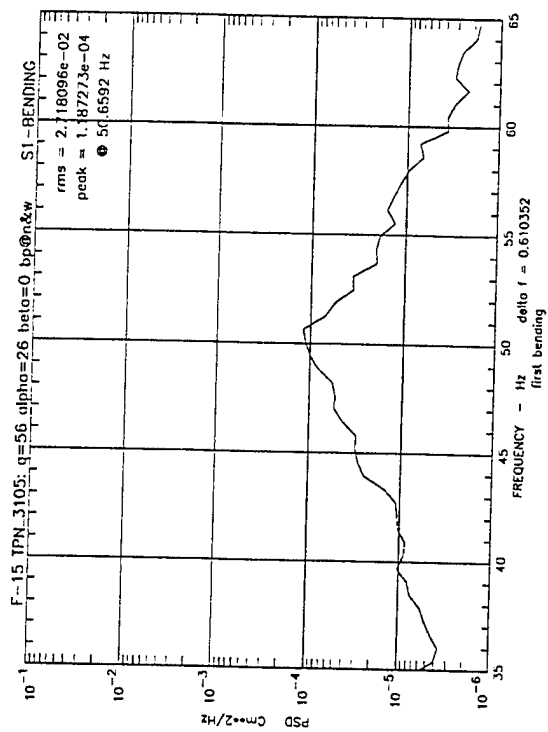
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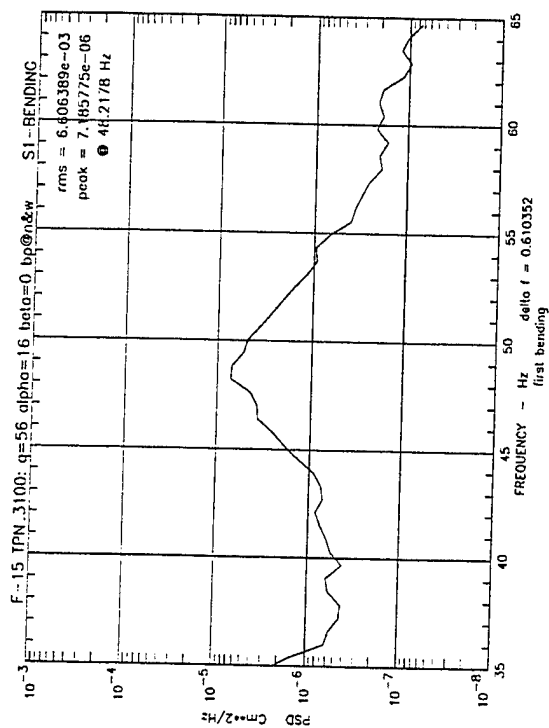
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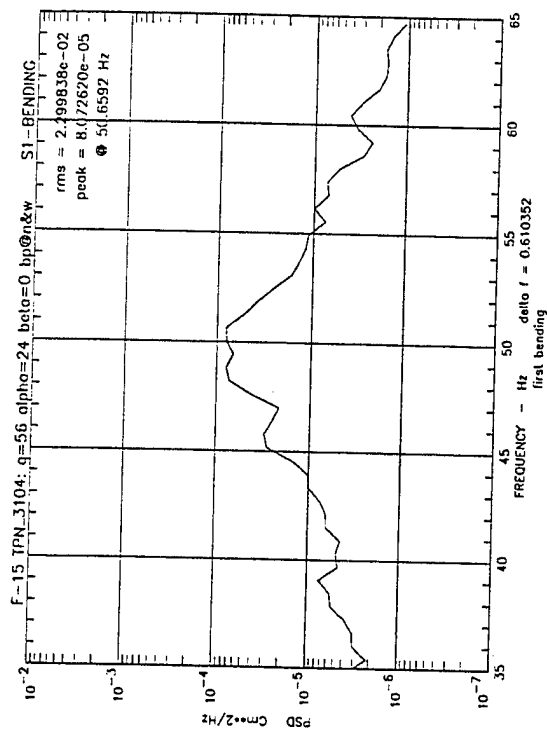
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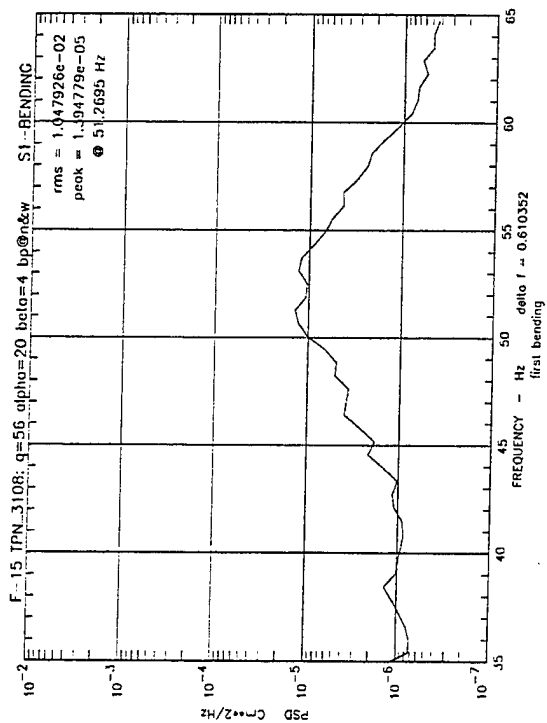
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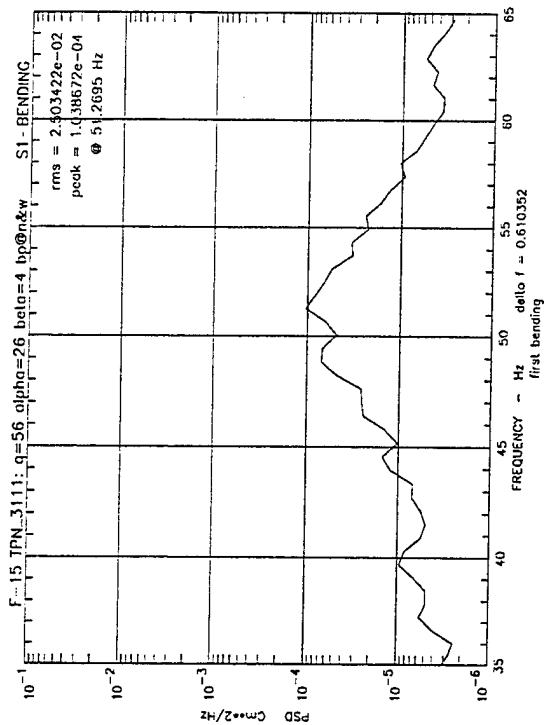
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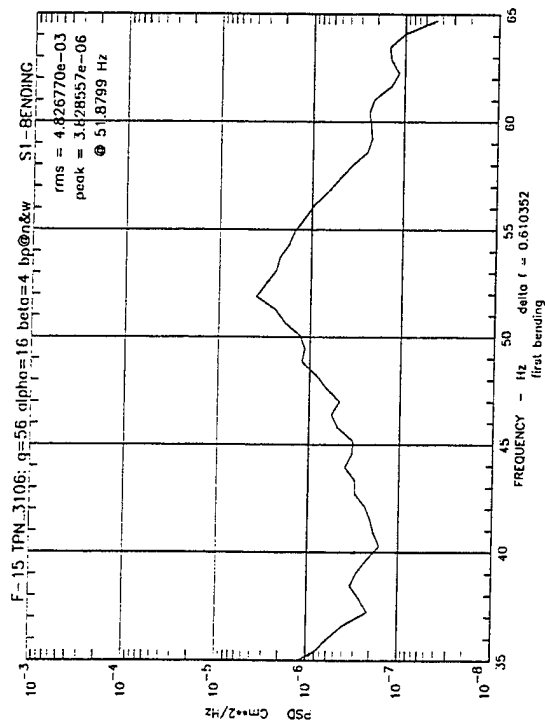
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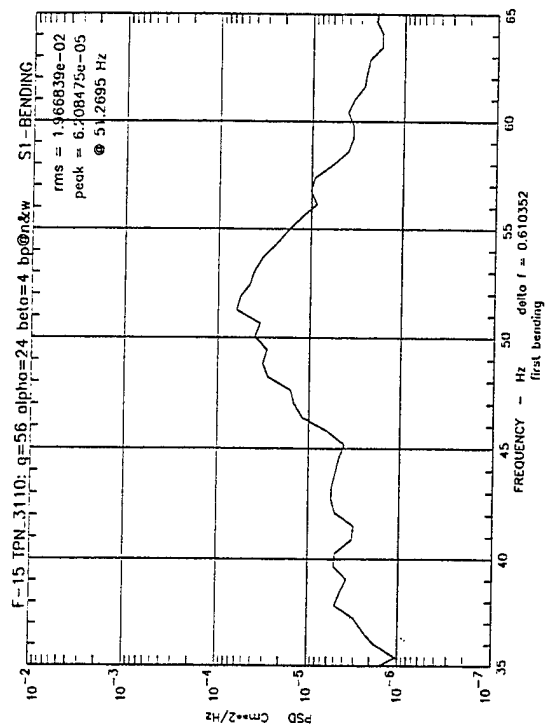
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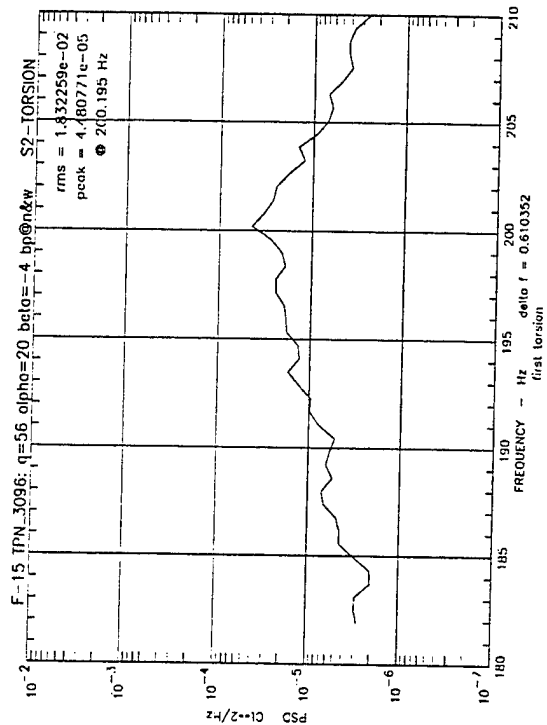
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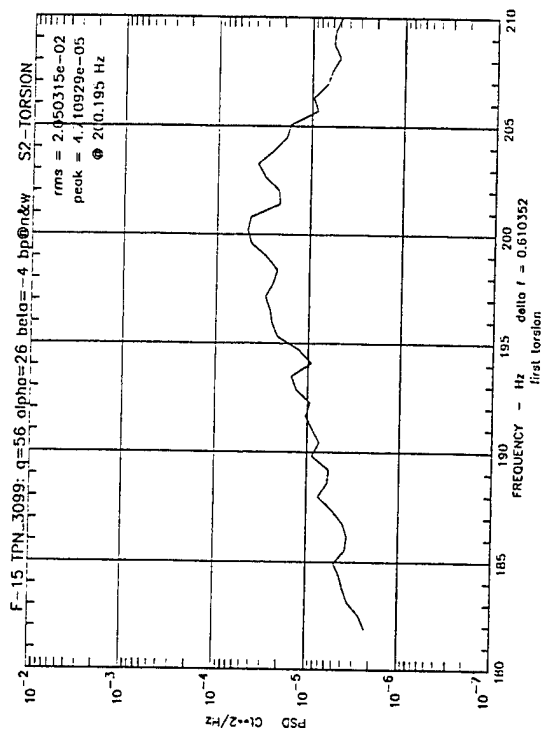
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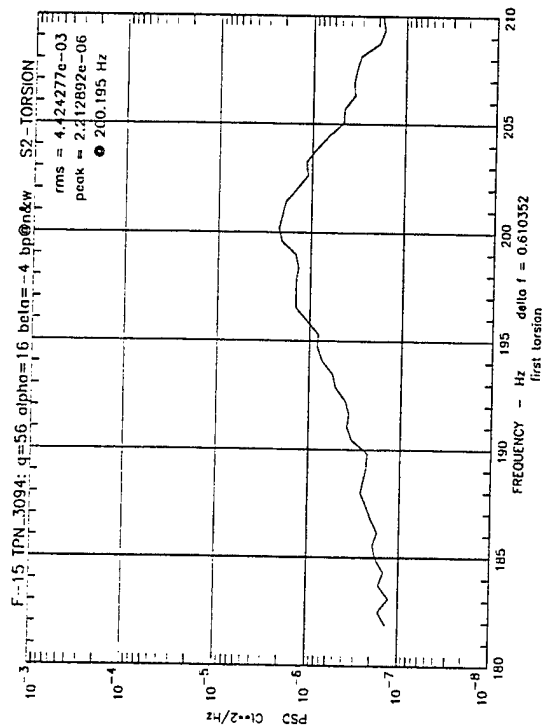
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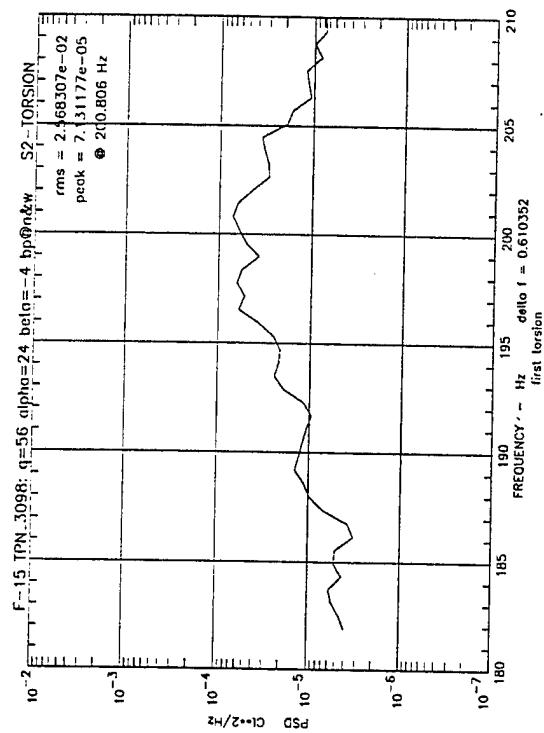
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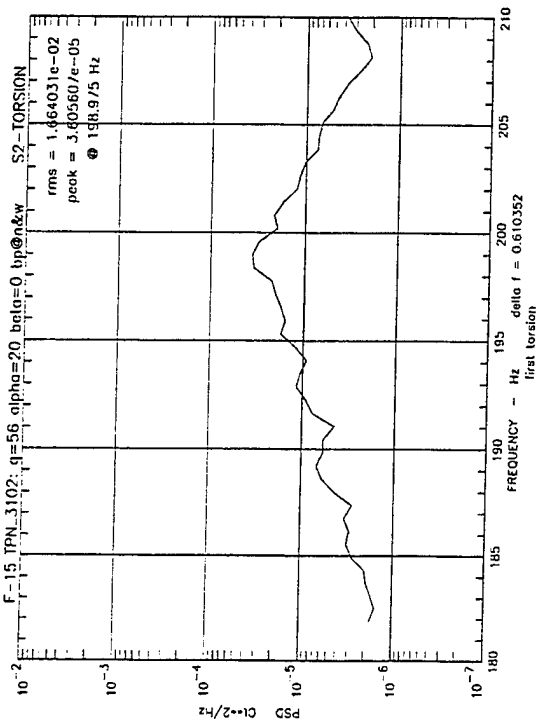
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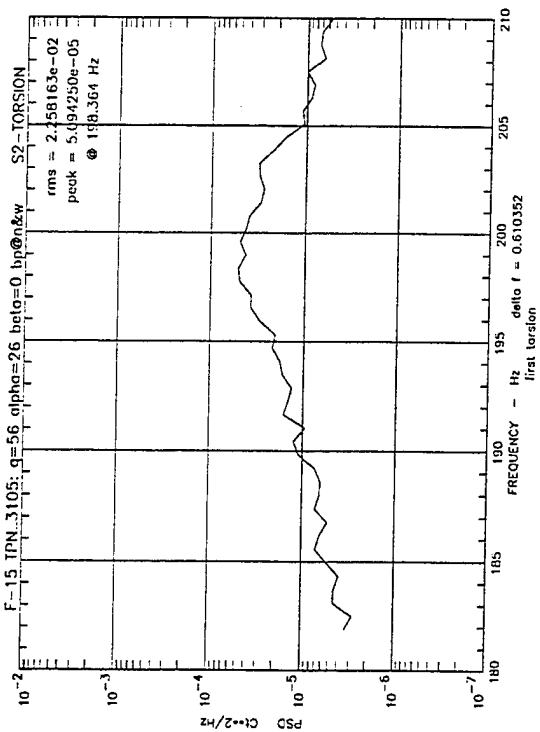
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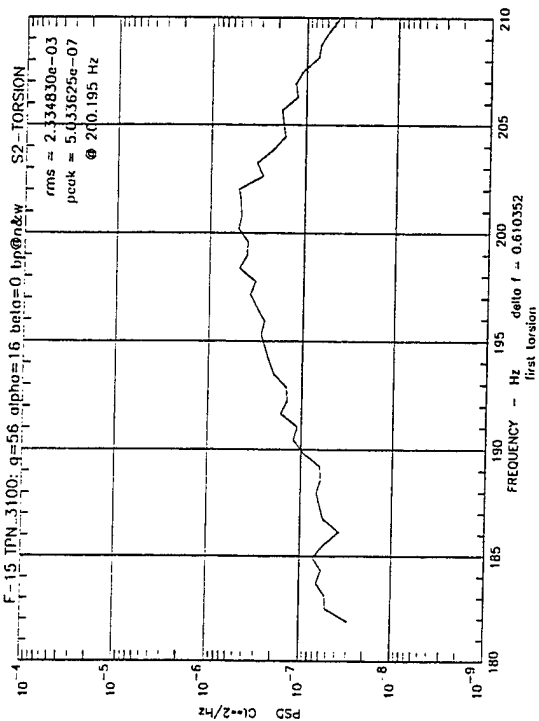
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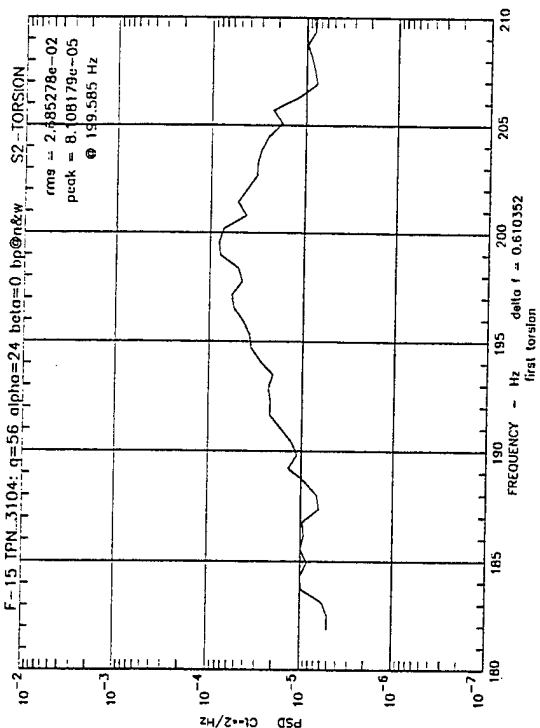
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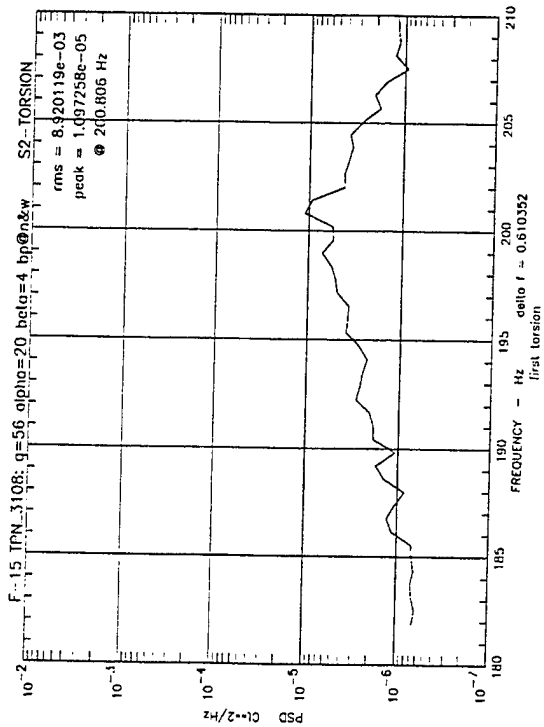
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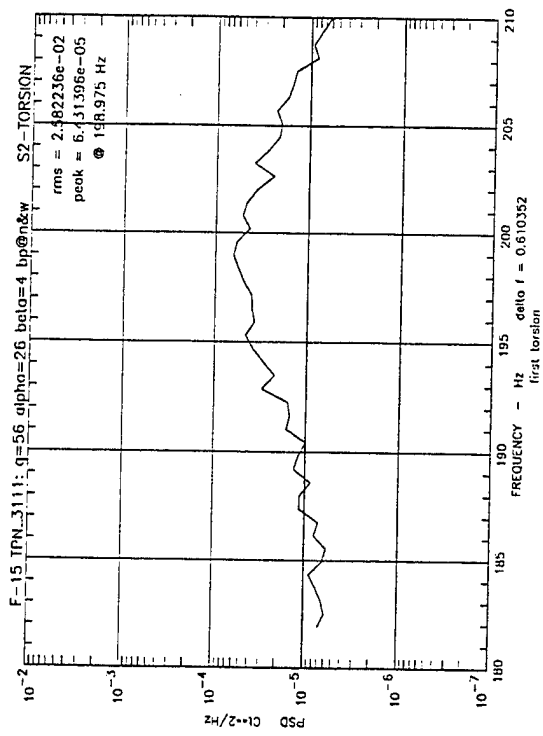
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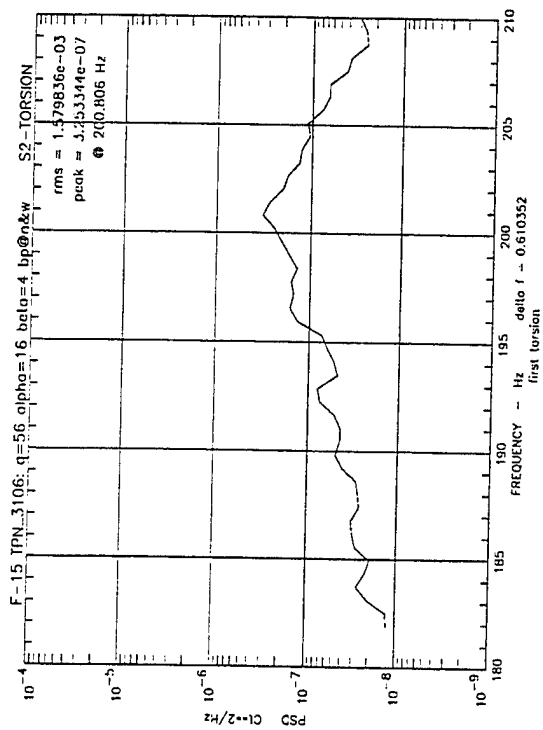
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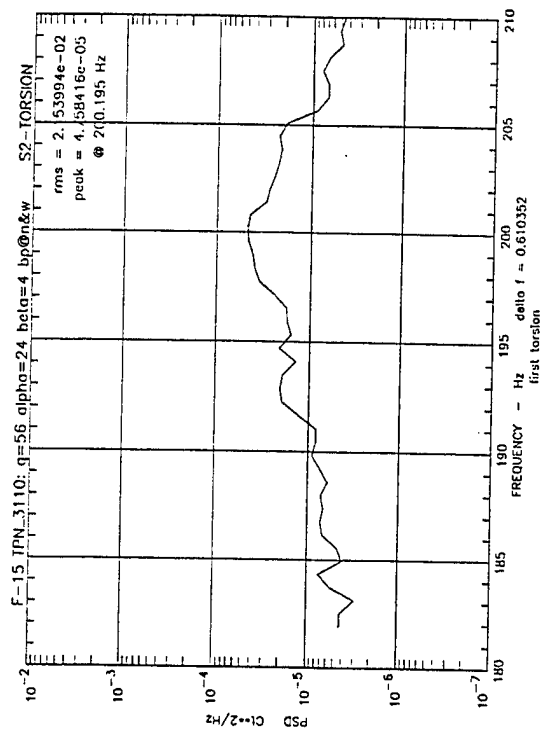
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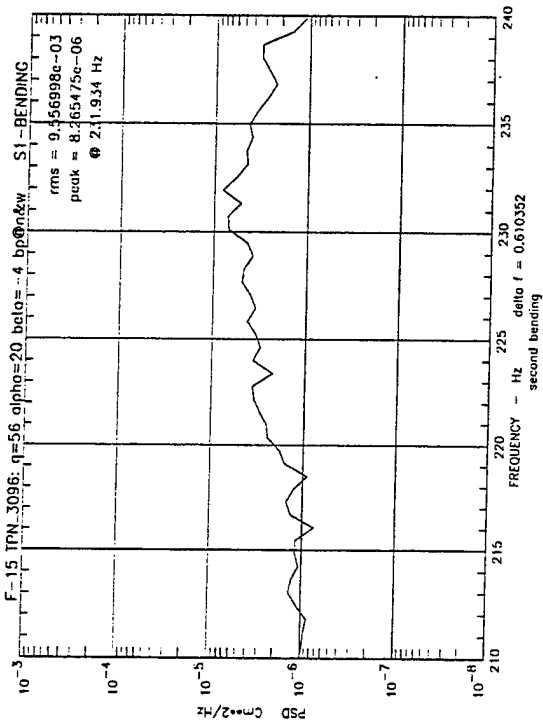
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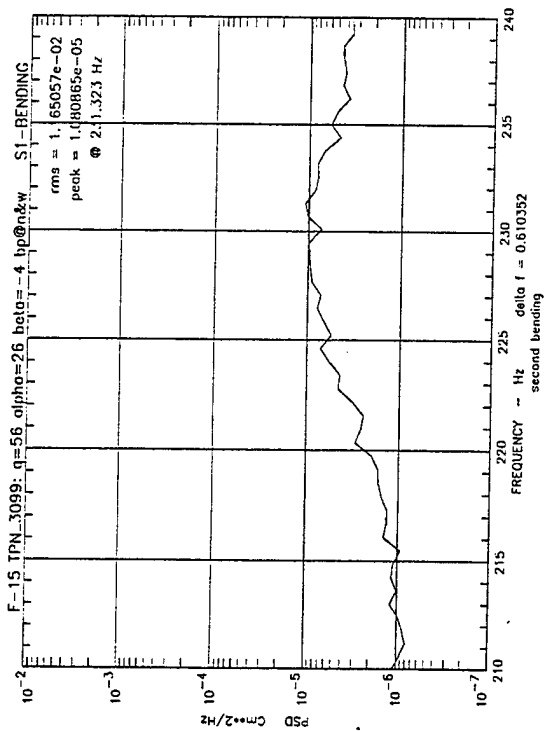
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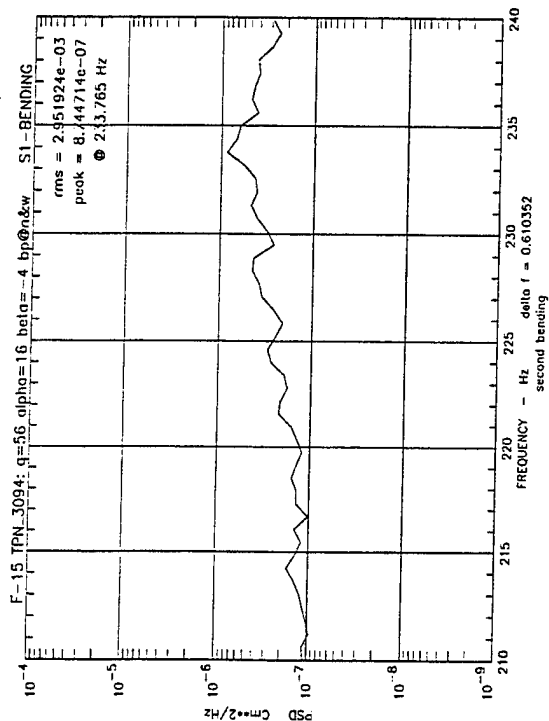
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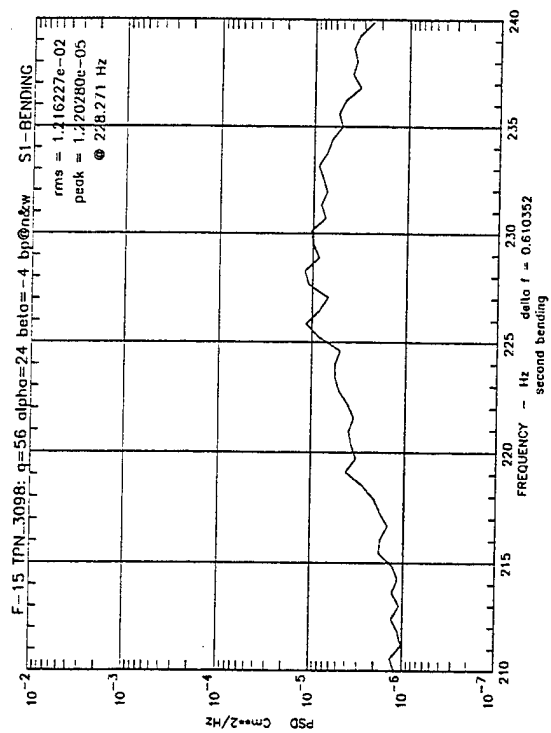
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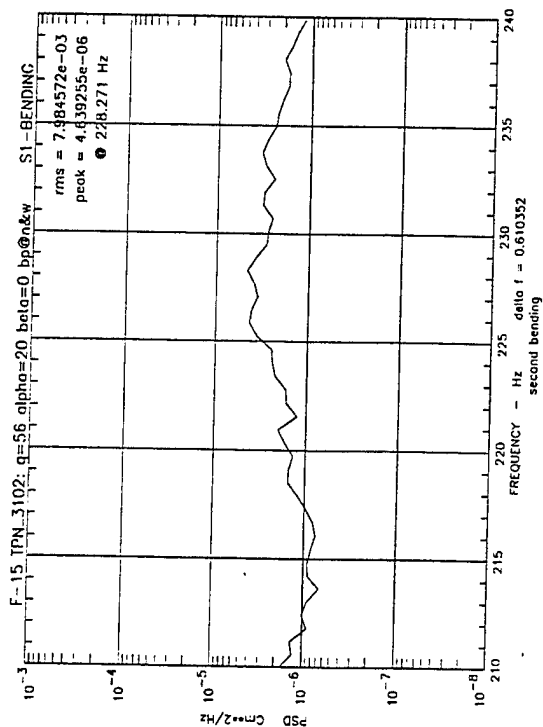
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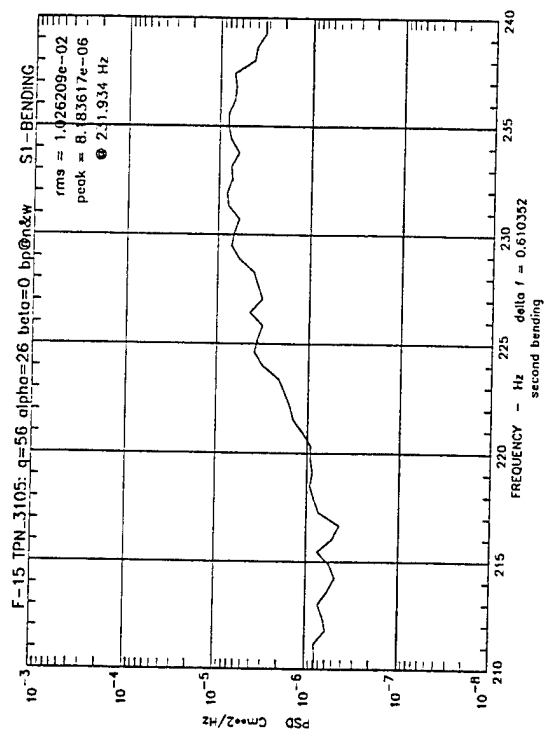
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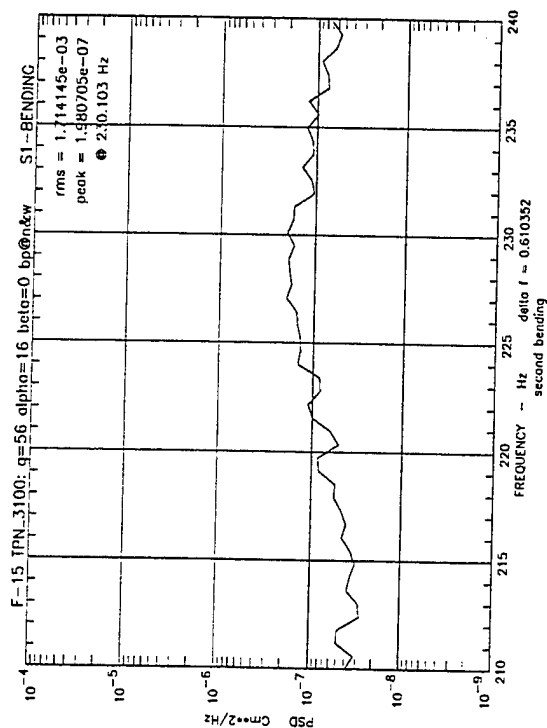
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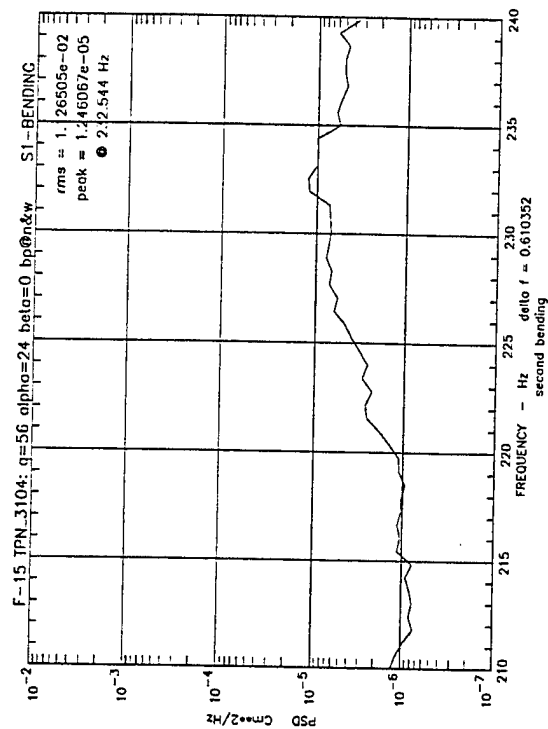
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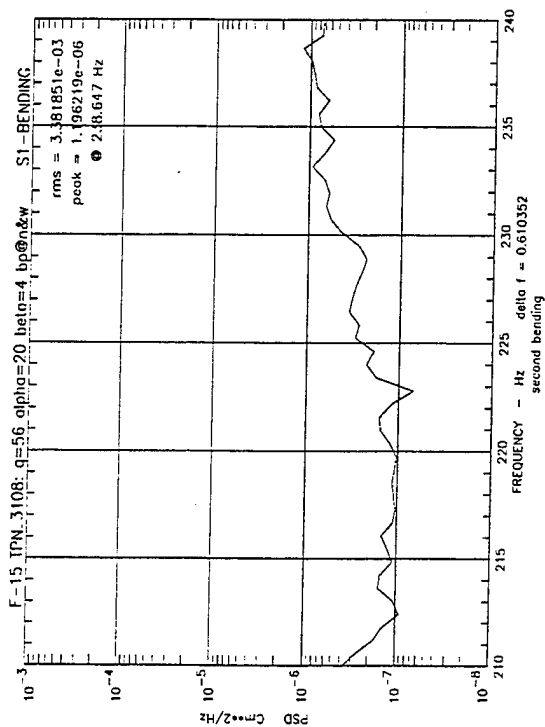
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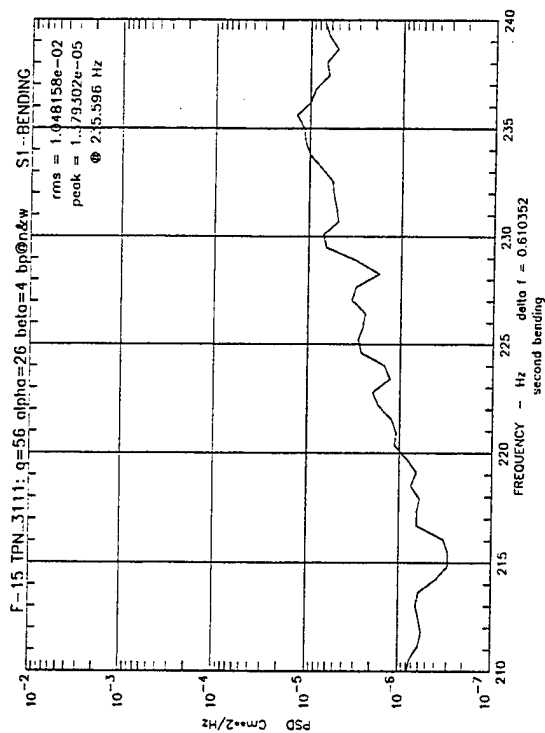
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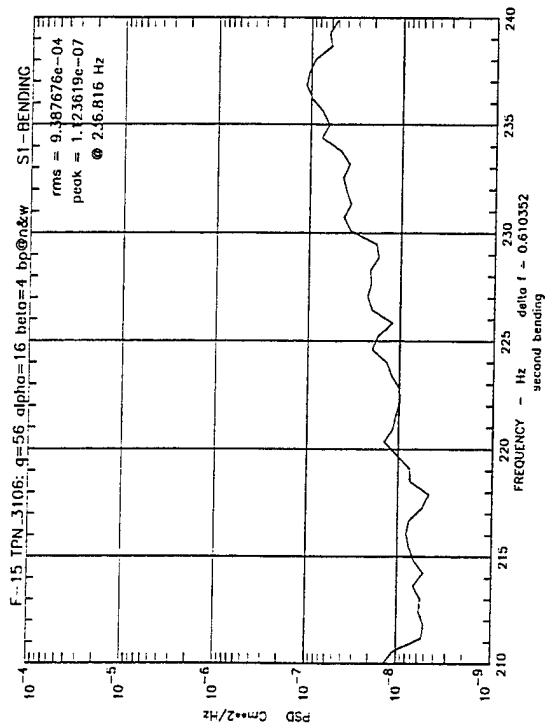
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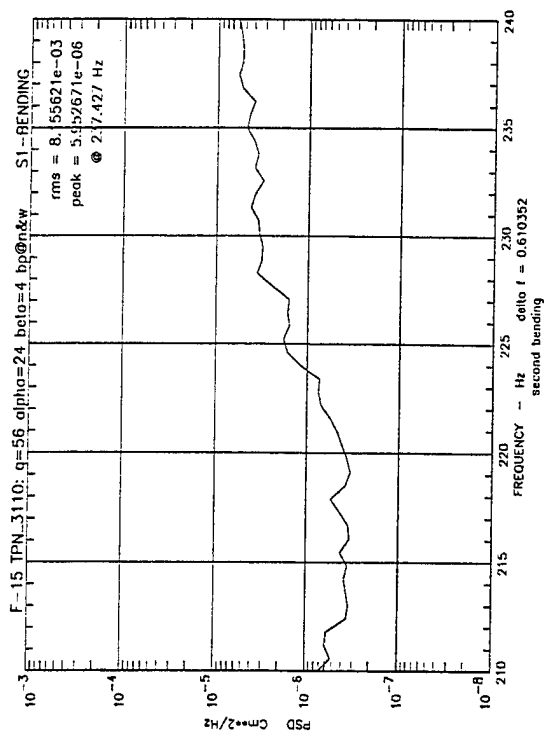
F-15 Tail Buffet Test



F-15 Tail Buffet Test



F-15 Tail Buffet Test



**FLEXIBLE TAIL RESPONSE
NON DIMENSIONAL BENDING AND TORSION**

Q= 56PSF

3.1.2 RMS SUMMARY TABS

F-15 Vertical Tail Buffet Test: Overall RMS (Cm & Ct nondimensional units), Q=56 psi

0 psi blowing pressure:

<u>Beta</u>	<u>Alpha</u>	bending 5-500 Hz	torsion 5-500 Hz	1st bending 35-65 Hz	1st torsion 180-210 Hz	2nd bending 210-240 Hz
4	8	1.66E-03	5.42E-04	1.46E-03	1.28E-04	3.81E-04
4	20	1.24E-02	8.88E-03	9.89E-03	7.31E-03	3.77E-03
4	24	2.72E-02	2.54E-02	2.10E-02	2.07E-02	9.05E-03
4	32	5.54E-02	1.92E-02	4.79E-02	1.35E-02	1.81E-02
0	8	2.07E-03	6.48E-04	1.85E-03	1.28E-04	4.97E-04
0	20	1.97E-02	1.63E-02	1.42E-02	1.30E-02	8.49E-03
0	24	2.94E-02	3.13E-02	2.15E-02	2.48E-02	1.06E-02
0	32	6.13E-02	1.29E-02	5.52E-02	9.19E-03	1.53E-02
-4	8	1.82E-03	6.32E-04	1.54E-03	1.41E-04	6.01E-04
-4	20	2.43E-02	2.41E-02	1.62E-02	1.94E-02	1.11E-02
-4	24	3.52E-02	2.64E-02	2.90E-02	1.92E-02	1.08E-02
-4	32	5.84E-02	1.07E-02	5.31E-02	7.64E-03	1.21E-02

45 psi blowing pressure:

<u>Beta</u>	<u>Alpha</u>	bending 5-500 Hz	torsion 5-500 Hz	1st bending 35-65 Hz	1st torsion 180-210 Hz	2nd bending 210-240 Hz
4	8	1.79E-03	8.43E-04	1.55E-03	2.32E-04	3.76E-04
4	20	1.11E-02	7.96E-03	9.38E-03	6.81E-03	2.25E-03
4	24	2.48E-02	2.09E-02	2.00E-02	1.70E-02	5.97E-03
4	32	5.95E-02	2.01E-02	5.28E-02	1.42E-02	1.68E-02
0	8	2.12E-03	8.45E-04	1.93E-03	2.20E-04	4.39E-04
0	20	1.88E-02	1.48E-02	1.51E-02	1.25E-02	6.22E-03
0	24	2.99E-02	2.95E-02	2.29E-02	2.30E-02	1.08E-02
0	32	5.85E-02	1.46E-02	5.36E-02	1.08E-02	1.30E-02
-4	8	1.85E-03	9.49E-04	1.61E-03	1.95E-04	4.29E-04
-4	20	2.25E-02	1.94E-02	1.71E-02	1.62E-02	8.87E-03
-4	24	3.88E-02	2.94E-02	3.26E-02	2.32E-02	1.22E-02
-4	32	5.75E-02	1.13E-02	5.35E-02	8.11E-03	1.14E-02

65 psi blowing pressure:

<u>Beta</u>	<u>Alpha</u>	bending 5-500 Hz	torsion 5-500 Hz	1st bending 35-65 Hz	1st torsion 180-210 Hz	2nd bending 210-240 Hz
4	16	5.09E-03	2.21E-03	4.43E-03	1.43E-03	8.36E-04
4	20	1.33E-02	1.01E-02	1.10E-02	8.79E-03	3.00E-03
4	24	2.57E-02	2.45E-02	2.01E-02	2.03E-02	7.27E-03
4	28	3.71E-02	3.30E-02	2.99E-02	2.42E-02	1.10E-02
0	16	7.27E-03	3.21E-03	6.23E-03	2.35E-03	1.73E-03
0	20	2.11E-02	1.84E-02	1.59E-02	1.59E-02	7.60E-03
0	24	3.14E-02	3.38E-02	2.32E-02	2.79E-02	1.14E-02
0	28	4.10E-02	2.15E-02	3.37E-02	1.51E-02	1.49E-02
-4	16	9.23E-03	5.49E-03	7.58E-03	4.44E-03	3.06E-03
-4	20	2.49E-02	2.23E-02	1.85E-02	1.91E-02	1.00E-02
-4	24	3.60E-02	3.00E-02	2.90E-02	2.39E-02	1.23E-02
-4	28	4.66E-02	1.55E-02	4.00E-02	1.04E-02	1.57E-02

F-15 Vertical Tail Buffet Test: Overall RMS (Cm & Ct nondimensional units), Q=56 psi

65 psi blowing pressure at gun only:

<u>Beta</u>	<u>Alpha</u>	<u>bending</u> <u>5-500 Hz</u>	<u>torsion</u> <u>5-500 Hz</u>	<u>1st bending</u> <u>35-65 Hz</u>	<u>1st torsion</u> <u>180-210 Hz</u>	<u>2nd bending</u> <u>210-240 Hz</u>
4	16	.00541	.00215	.00473	.00139	.00097
4	20	.01420	.01213	.01127	.01049	.00378
4	24	.02596	.02449	.02001	.01992	.00851
4	26	.03256	.03098	.02574	.02514	.00997
0	16	.00749	.00344	.00632	.00268	.00196
0	20	.02176	.02095	.01542	.01813	.00872
0	24	.03202	.03406	.02375	.02819	.01150
0	26	.03838	.03261	.03179	.02505	.01109
-4	16	.01140	.00776	.00872	.00630	.00434
-4	20	.02649	.02734	.01832	.02311	.01102
-4	24	.04180	.02930	.03560	.02210	.01182
-4	26	.04863	.02209	.04126	.01677	.01775

65 psi blowing pressure at gun & wing L.E.:

<u>Beta</u>	<u>Alpha</u>	<u>bending</u> <u>5-500 Hz</u>	<u>torsion</u> <u>5-500 Hz</u>	<u>1st bending</u> <u>35-65 Hz</u>	<u>1st torsion</u> <u>180-210 Hz</u>	<u>2nd bending</u> <u>210-240 Hz</u>
4	16	.00571	.00247	.00491	.00163	.00099
4	20	.01374	.01081	.01133	.00915	.00313
4	24	.02574	.02315	.01990	.01903	.00793
4	26	.03211	.03043	.02479	.02480	.01036
0	16	.00801	.00369	.00681	.00288	.00180
0	20	.02060	.01846	.01559	.01602	.00708
0	24	.03175	.03202	.02385	.02648	.01155
0	26	.03728	.03235	.03055	.02619	.01121
-4	16	.01055	.00691	.00831	.00571	.00363
-4	20	.02519	.02463	.01802	.02088	.00994
-4	24	.04257	.03081	.03563	.02489	.01366
-4	26	.04822	.02716	.04115	.02226	.01609

F-15 Vertical Tail Buffet Test: Overall RMS (Cm & Ct nondimensional units), Q=56 psf

87 psi blowing pressure at nose only:

<u>Beta</u>	<u>Alpha</u>	<u>bending</u> <u>5-500 Hz</u>	<u>torsion</u> <u>5-500 Hz</u>	<u>1st bending</u> <u>35-65 Hz</u>	<u>1st torsion</u> <u>180-210 Hz</u>	<u>2nd bending</u> <u>210-240 Hz</u>
4	16	.00503	.00191	.00444	.00126	.00071
4	20	.01397	.01026	.01168	.00878	.00354
4	24	.02792	.02720	.02187	.02230	.00829
4	26	.03650	.03672	.02911	.02958	.01050
0	16	.00699	.00279	.00605	.00196	.00148
0	20	.02127	.01980	.01536	.01706	.00859
0	24	.03134	.03318	.02417	.02681	.01043
0	26	.03606	.02984	.02998	.02227	.01112
-4	16	.00770	.00417	.00638	.00317	.00253
-4	20	.02590	.02630	.01761	.02220	.01160
-4	24	.03833	.02846	.03234	.02168	.01159
-4	26	.04291	.01843	.03500	.01304	.01818

87 psi blowing pressure at nose & 65 psi at gun:

<u>Beta</u>	<u>Alpha</u>	<u>bending</u> <u>5-500 Hz</u>	<u>torsion</u> <u>5-500 Hz</u>	<u>1st bending</u> <u>35-65 Hz</u>	<u>1st torsion</u> <u>180-210 Hz</u>	<u>2nd bending</u> <u>210-240 Hz</u>
4	16	.00555	.00226	.00487	.00149	.00089
4	20	.01415	.01248	.01110	.01078	.00378
4	24	.02554	.02590	.01931	.02141	.00806
4	26	.03293	.03235	.02609	.02621	.00979
0	16	.00767	.00363	.00651	.00280	.00193
0	20	.02222	.02180	.01587	.01901	.00867
0	24	.03218	.03382	.02438	.02777	.01125
0	26	.03687	.03182	.03039	.02462	.01062
-4	16	.01138	.00773	.00884	.00633	.00428
-4	20	.02559	.02694	.01746	.02291	.01069
-4	24	.04219	.02949	.03619	.02212	.01150
-4	26	.04927	.02270	.04227	.01698	.01729

87 psi blowing pressure at nose & 65 psi at wing L.E.:

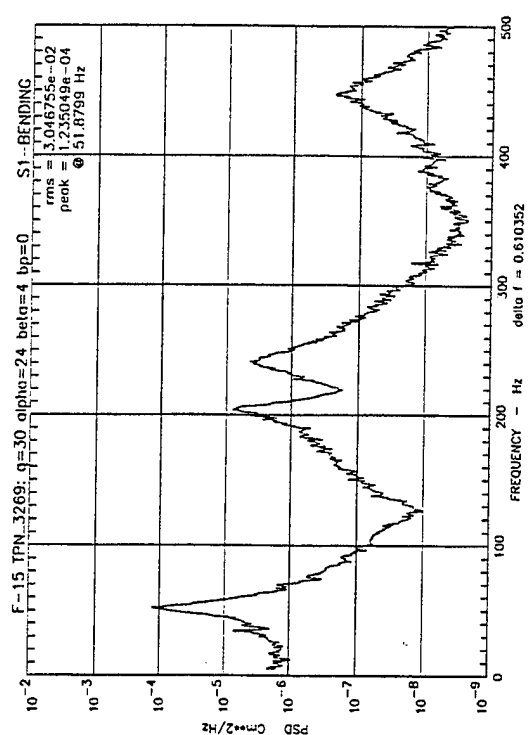
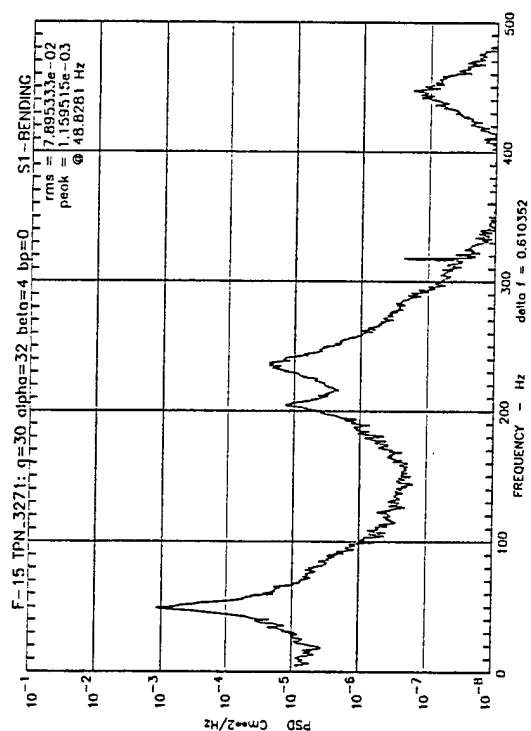
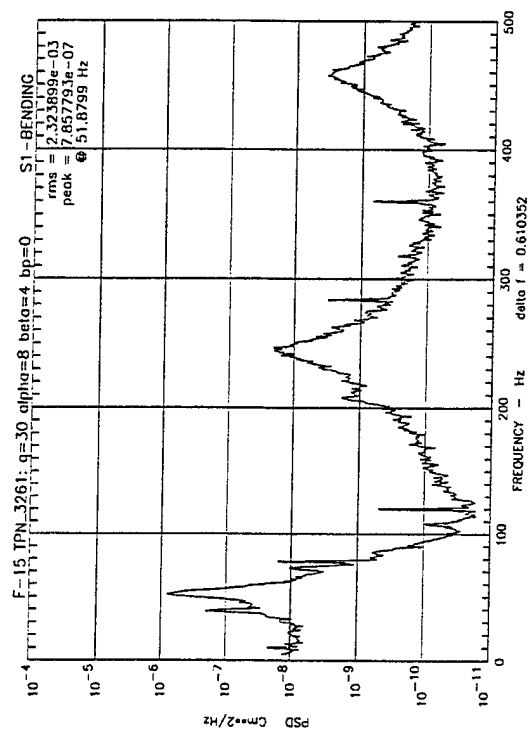
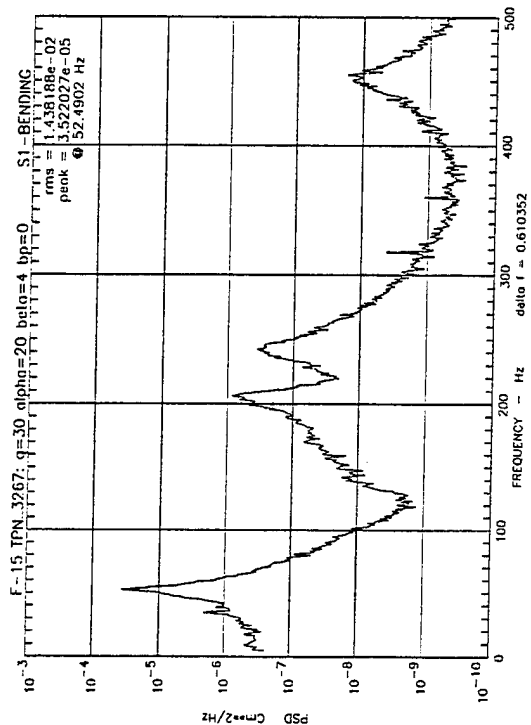
<u>Beta</u>	<u>Alpha</u>	<u>bending</u> <u>5-500 Hz</u>	<u>torsion</u> <u>5-500 Hz</u>	<u>1st bending</u> <u>35-65 Hz</u>	<u>1st torsion</u> <u>180-210 Hz</u>	<u>2nd bending</u> <u>210-240 Hz</u>
4	16	.00550	.00236	.00483	.00158	.00094
4	20	.01302	.01047	.01048	.00892	.00338
4	24	.02583	.02590	.01967	.02154	.00816
4	26	.03230	.03267	.02503	.02582	.01048
0	16	.00759	.00329	.00661	.00234	.00171
0	20	.02123	.01925	.01571	.01664	.00799
0	24	.03093	.03294	.02300	.02685	.01127
0	26	.03362	.02999	.02718	.02258	.01026
-4	16	.00900	.00551	.00733	.00442	.00295
-4	20	.02391	.02171	.01772	.01832	.00956
-4	24	.03684	.03150	.02967	.02568	.01216
-4	26	.04104	.02572	.03556	.02050	.01165

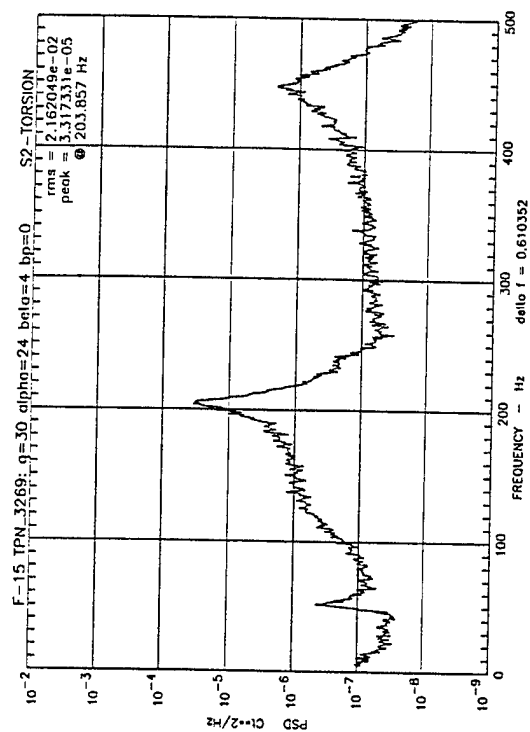
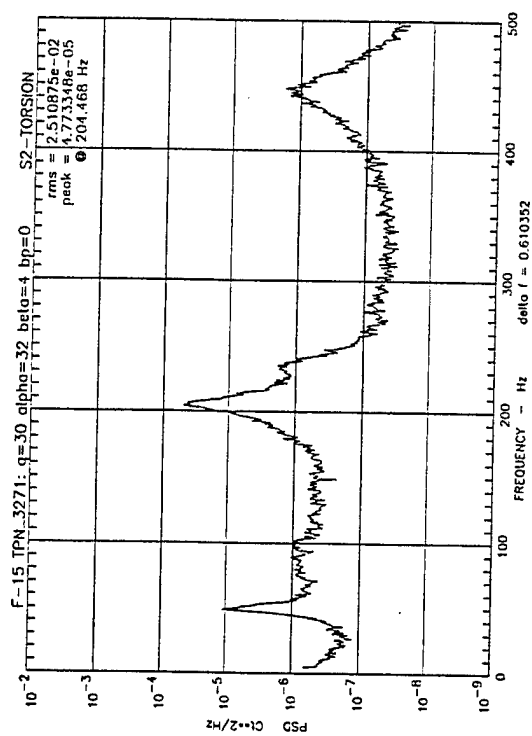
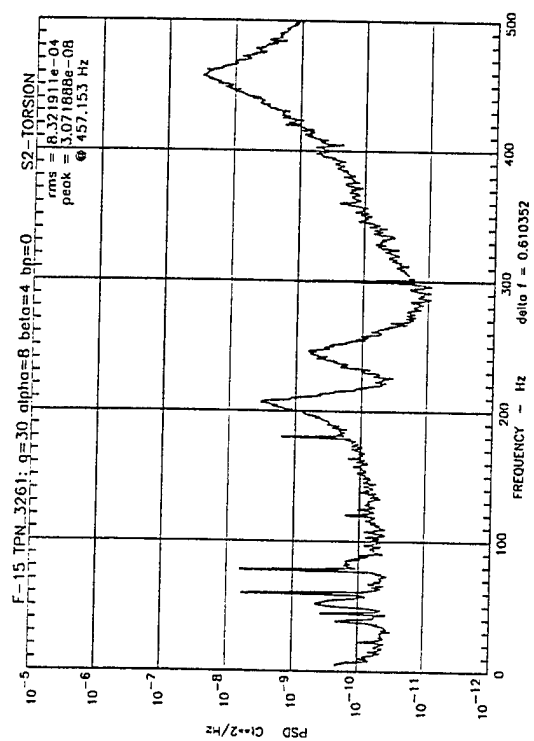
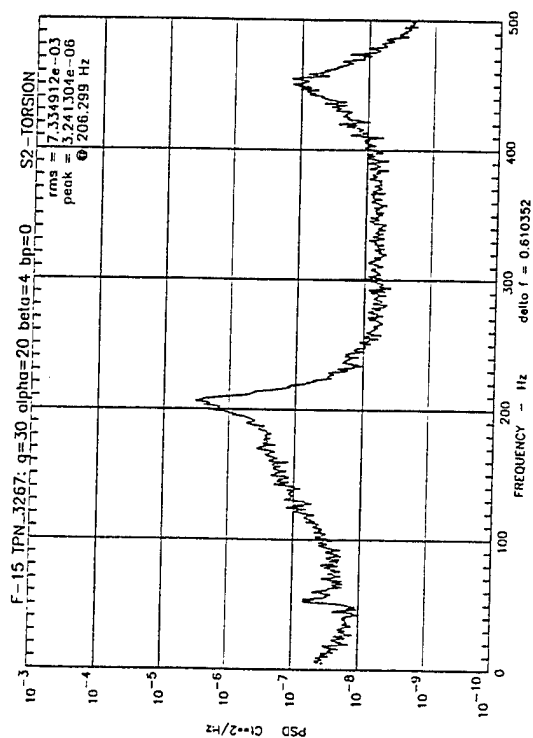
**FLEXIBLE TAIL RESPONSE
NON DIMENSIONAL BENDING AND TORSION**

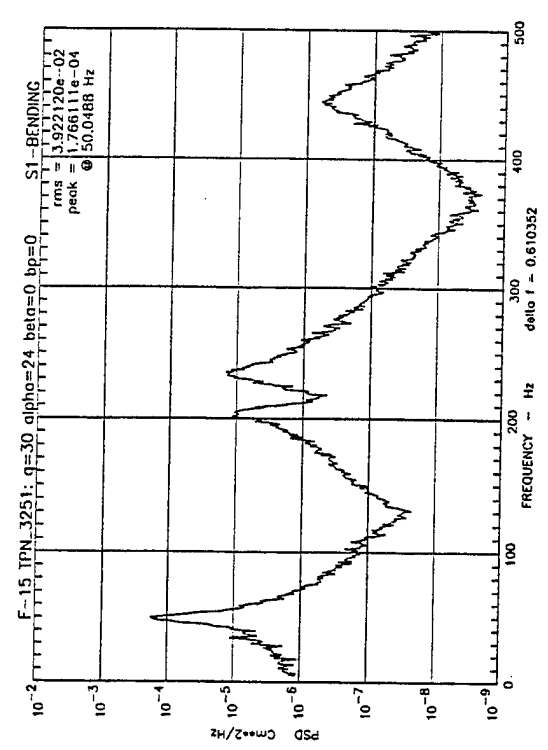
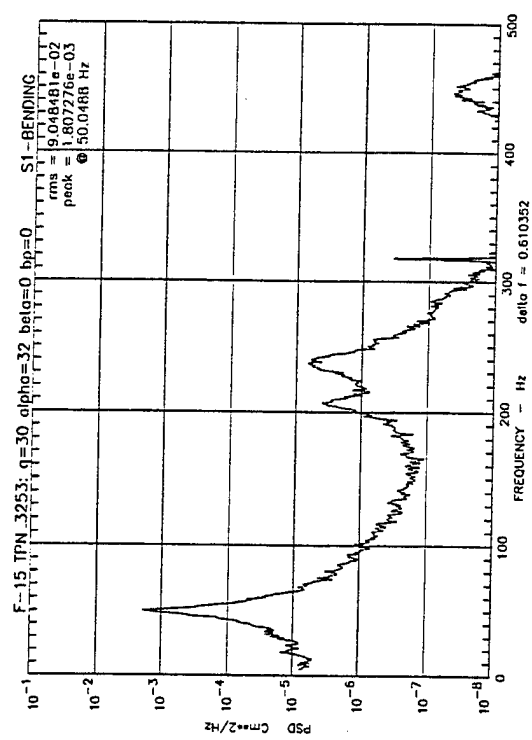
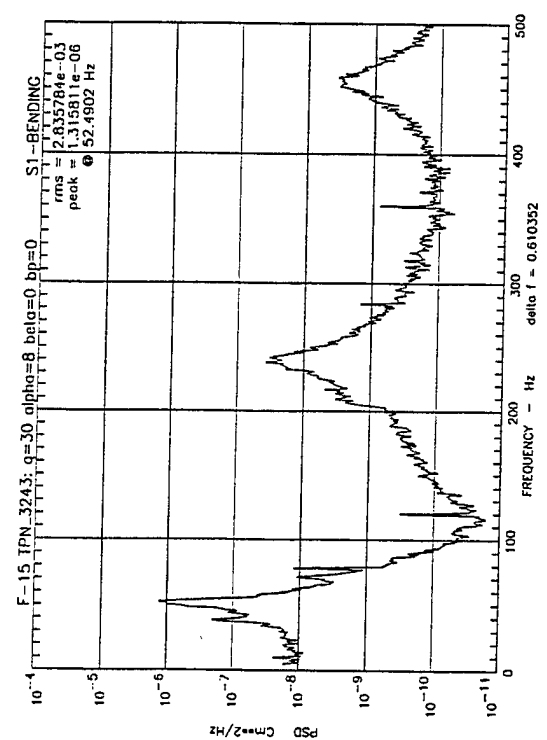
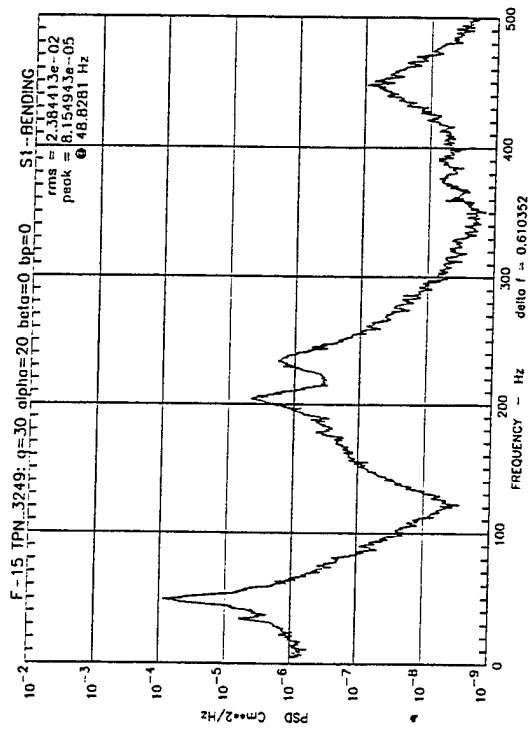
PSD GRAPHS

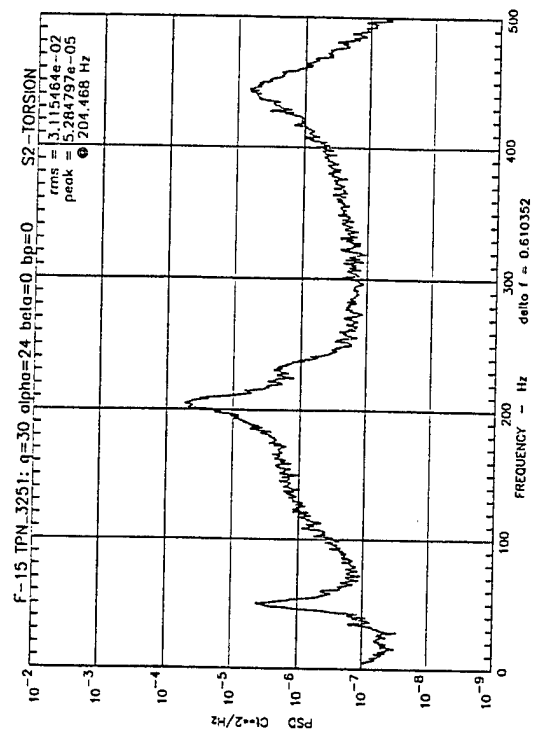
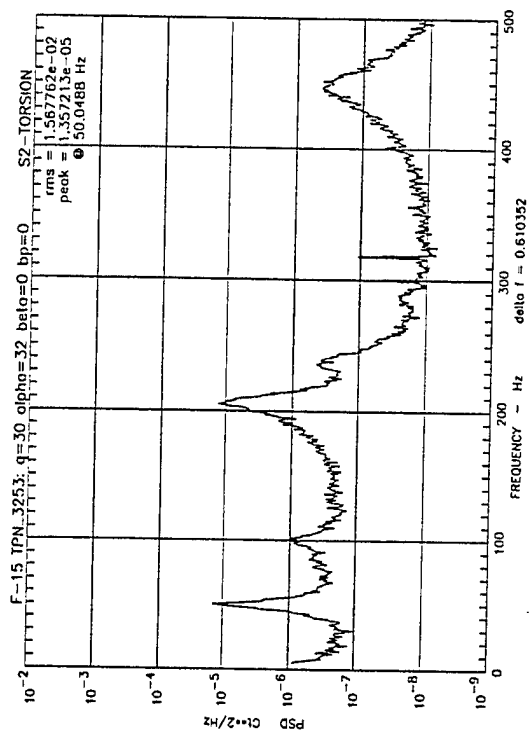
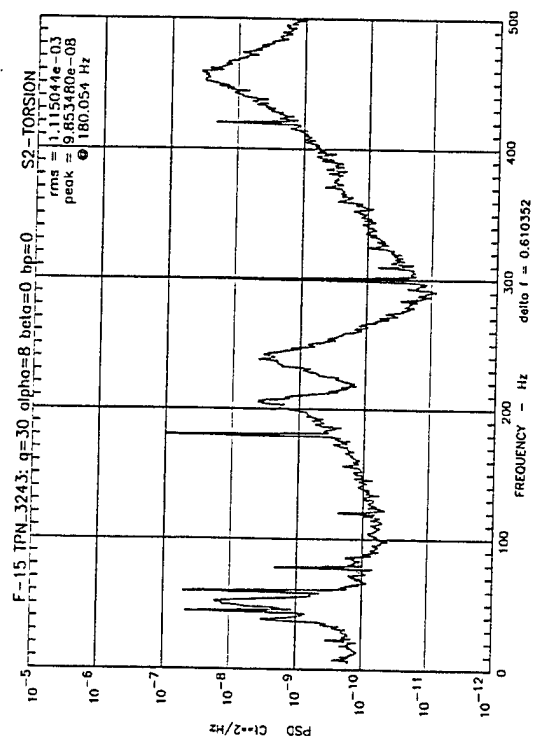
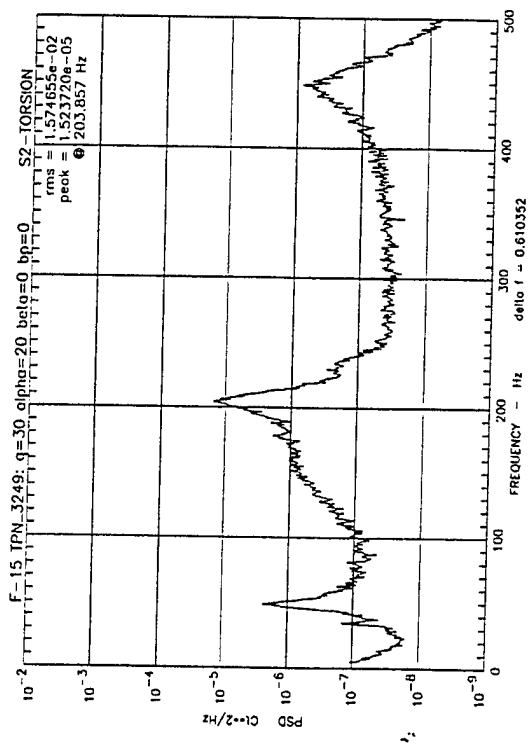
Q= 30 PSF

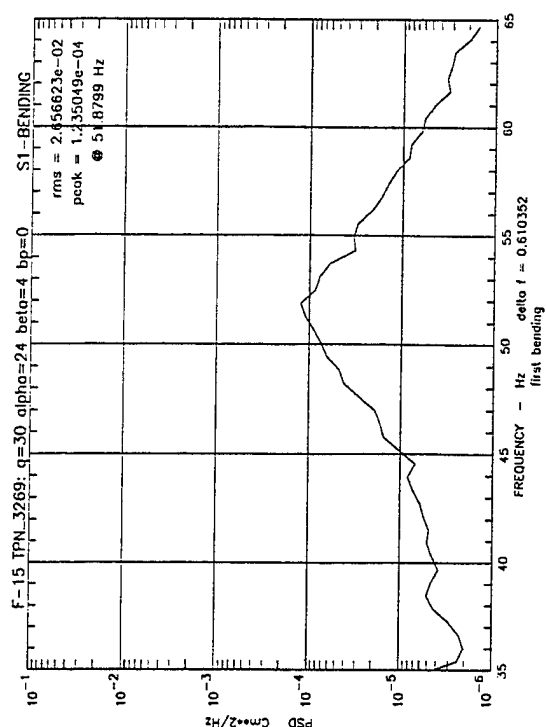
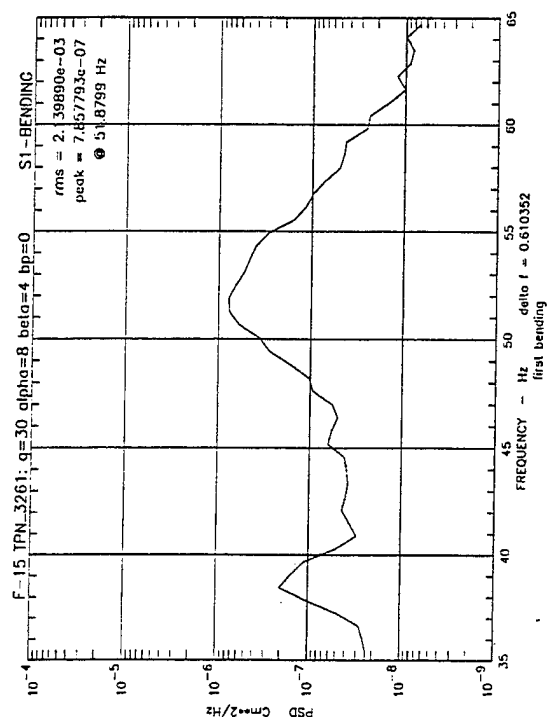
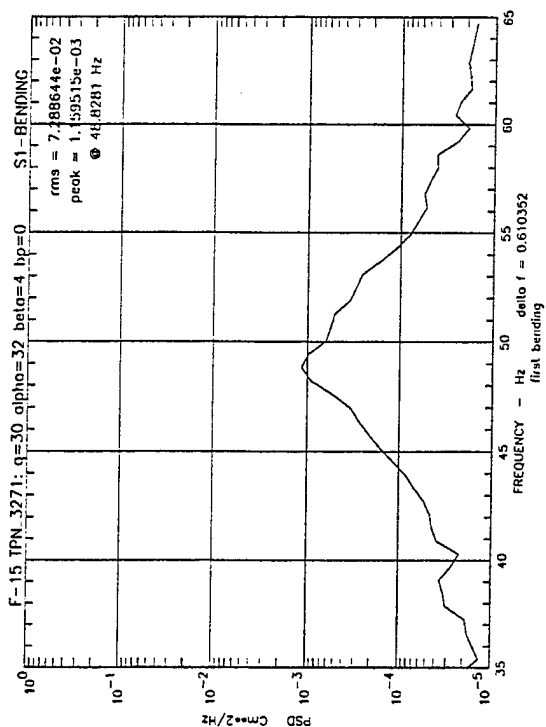
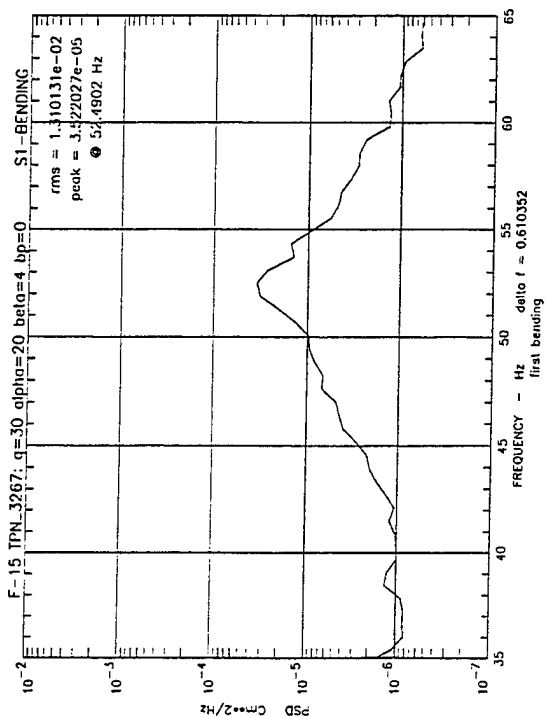
3.2.1 WBP = 0, 45 PSI, BETA =0, +4, -4 , ALPHA = 8.....32 DEG

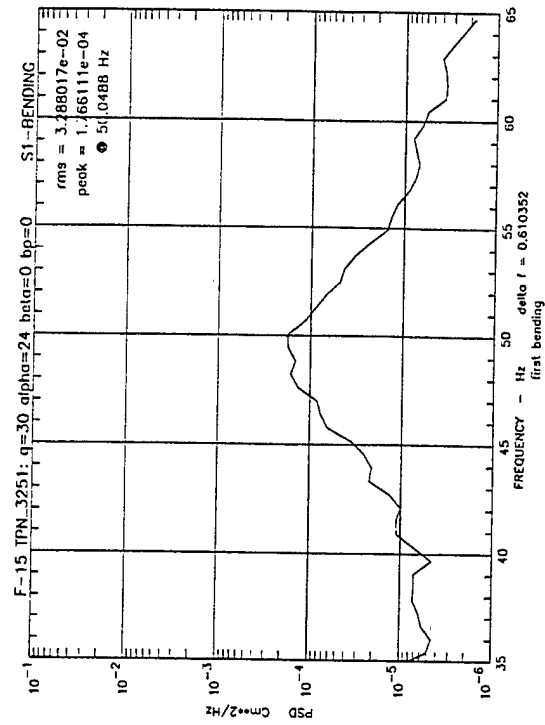
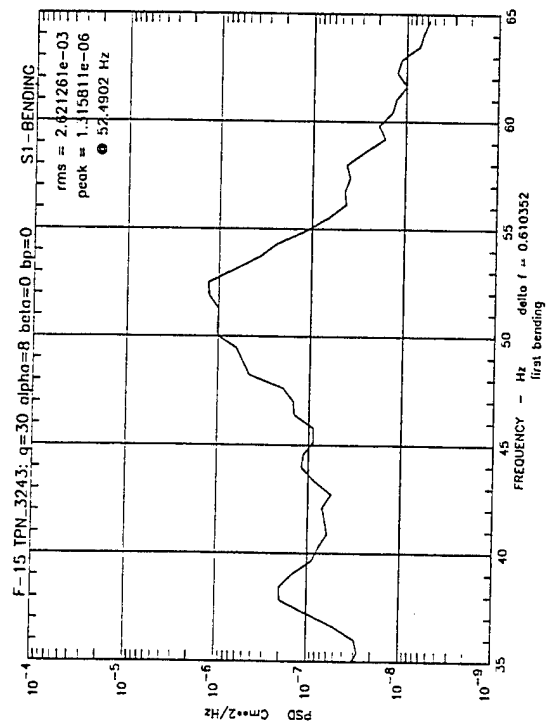
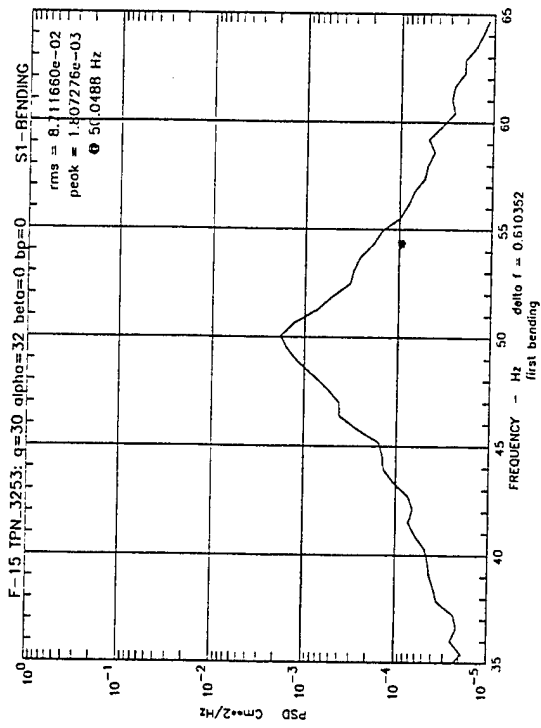
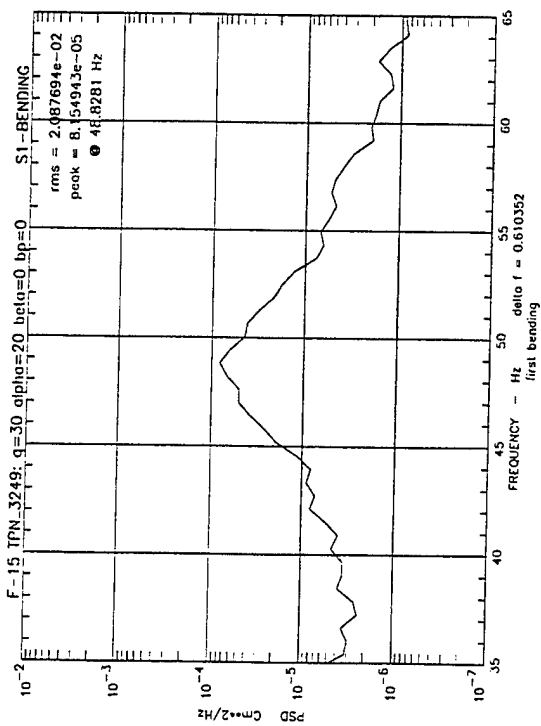


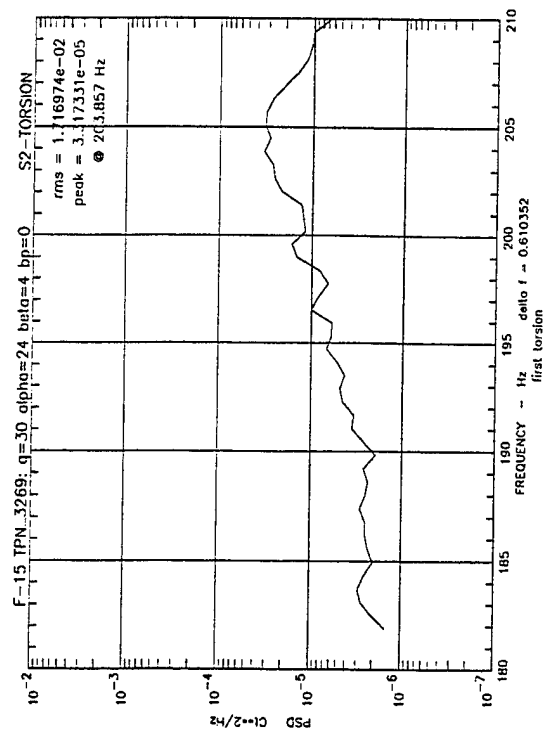
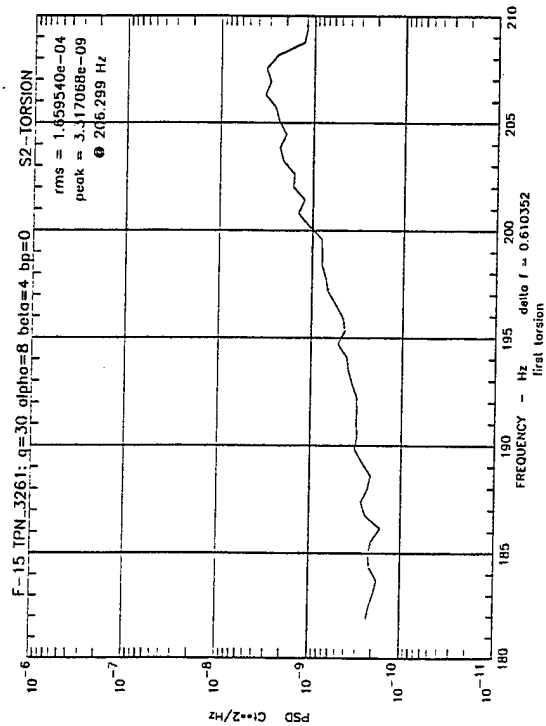
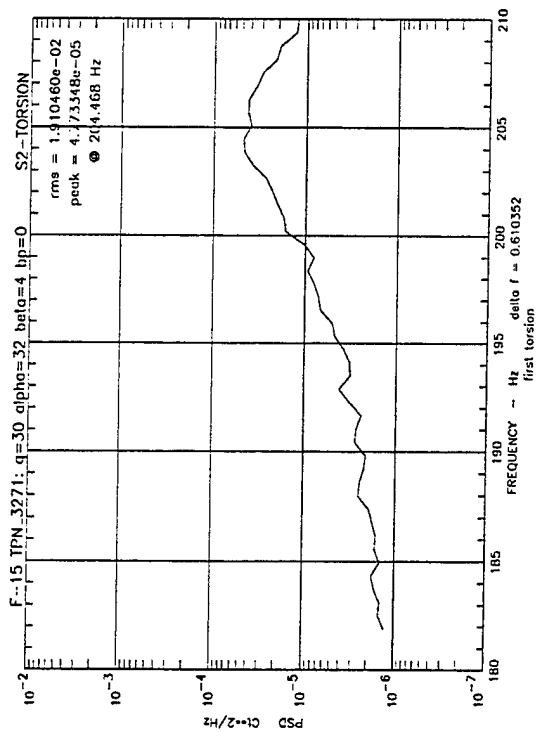
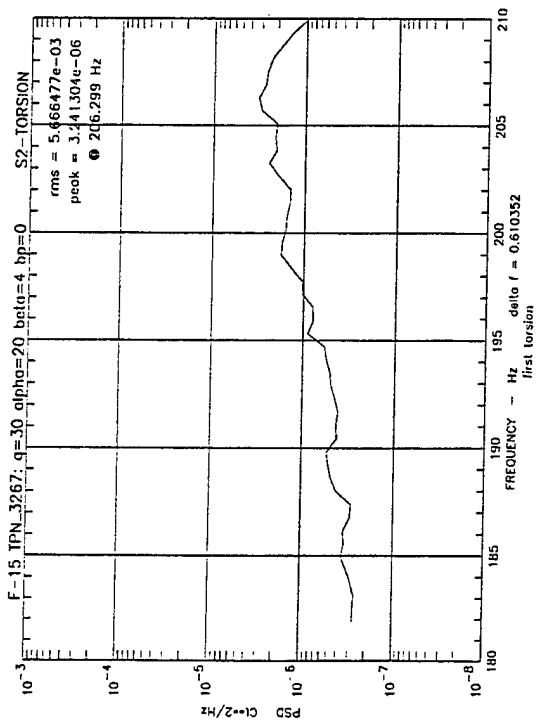


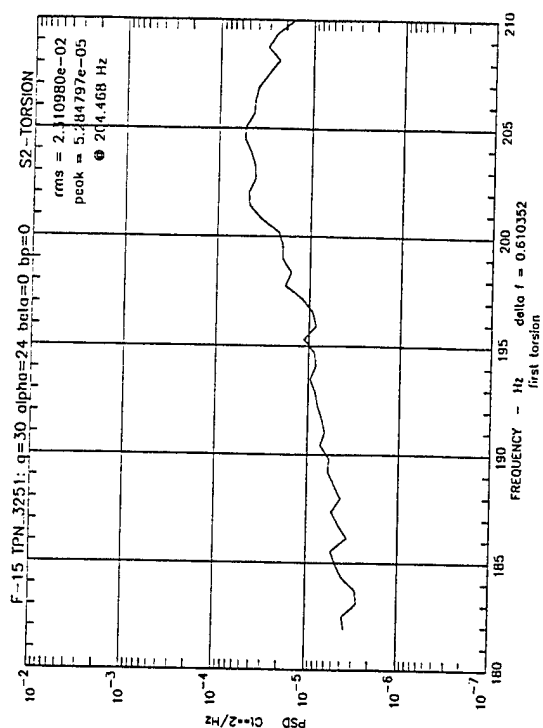
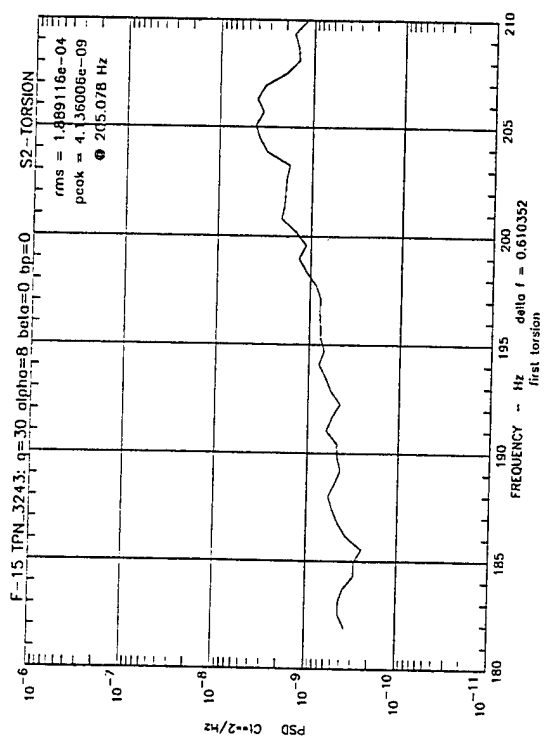
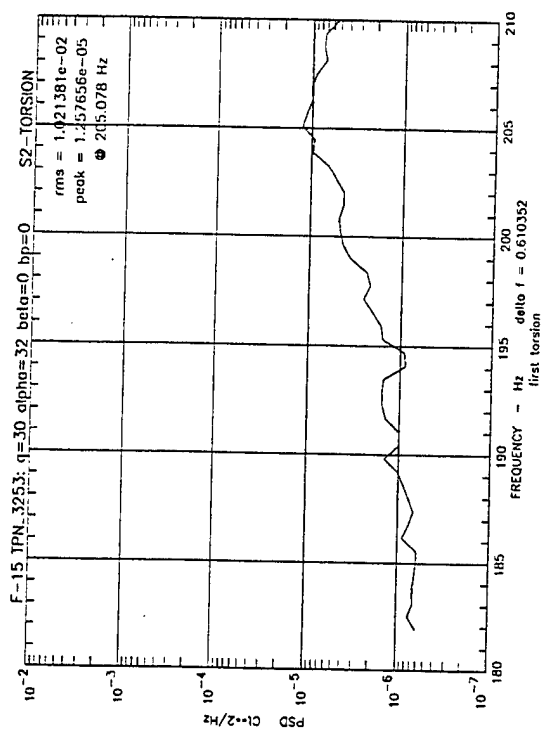
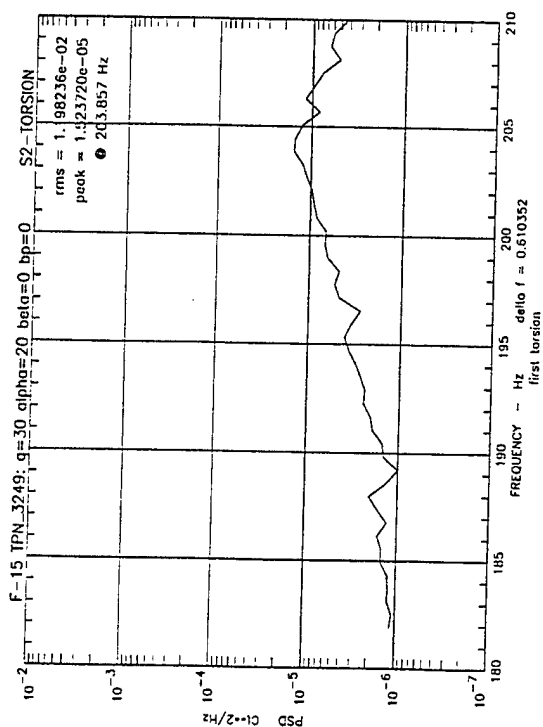


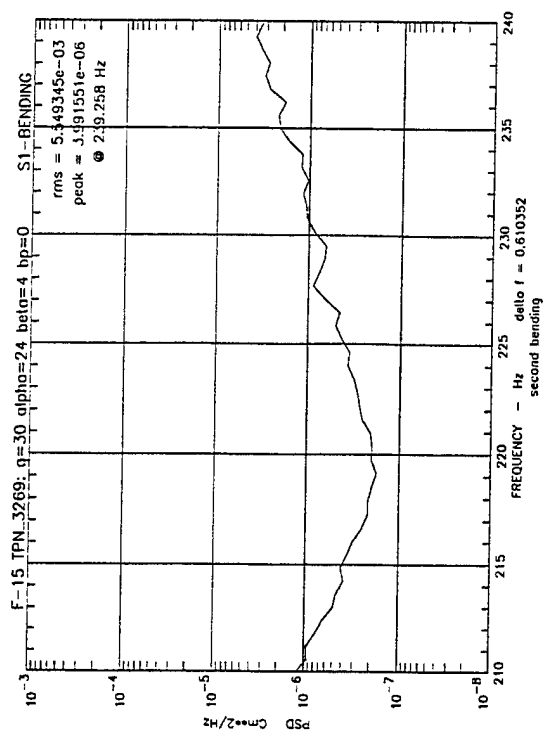
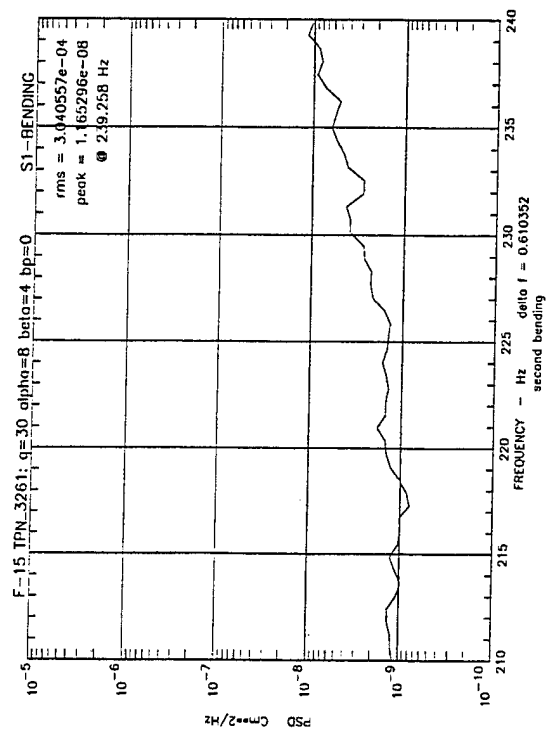
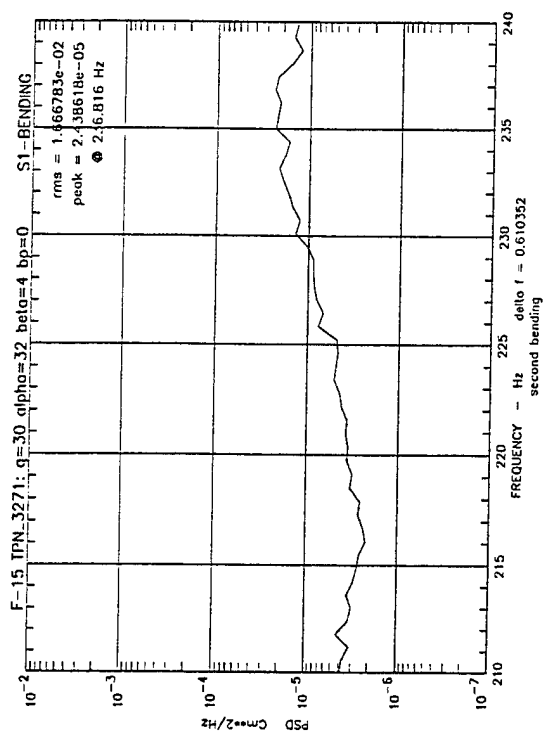
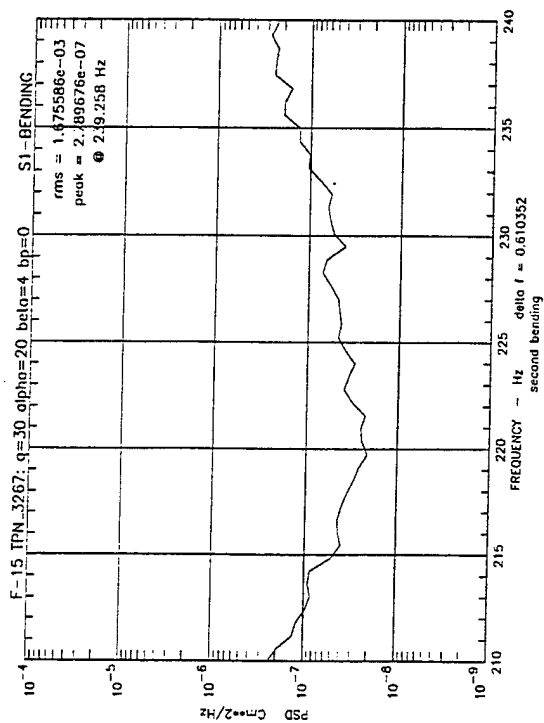


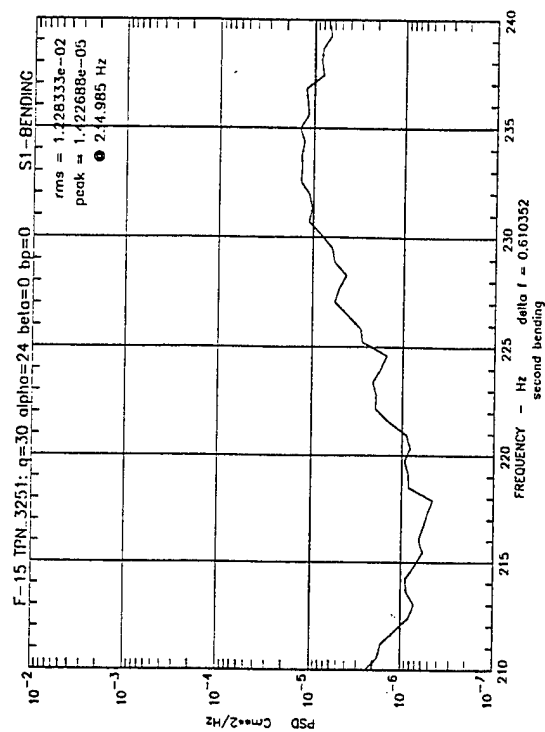
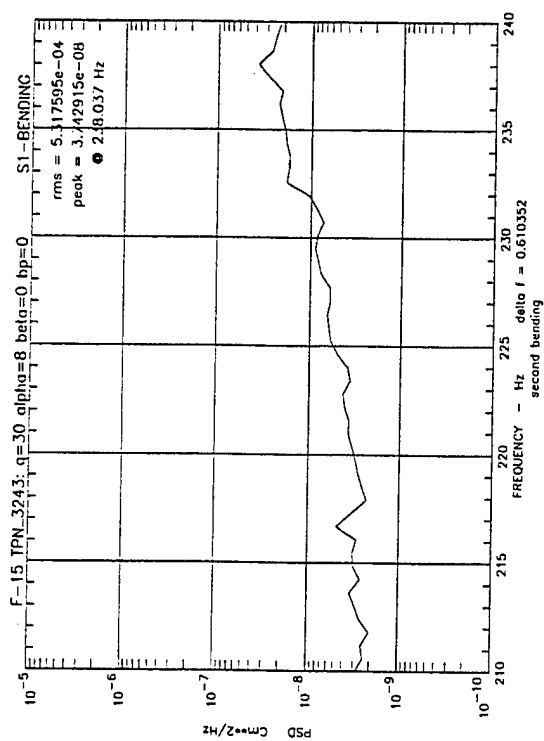
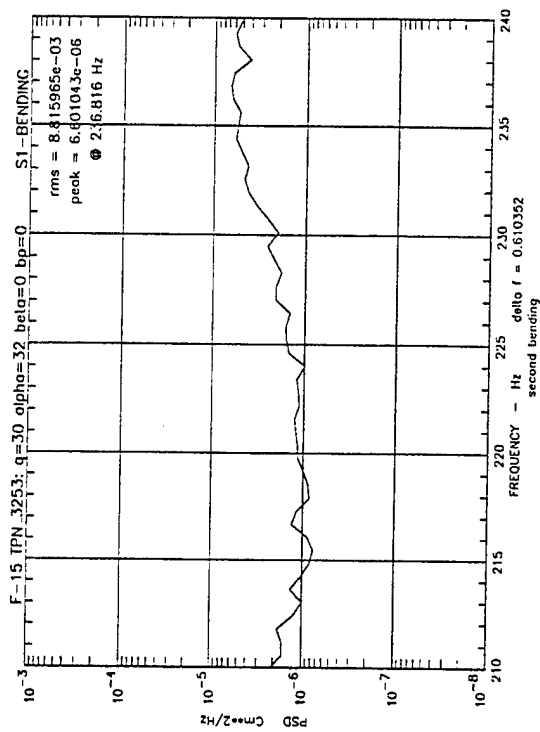
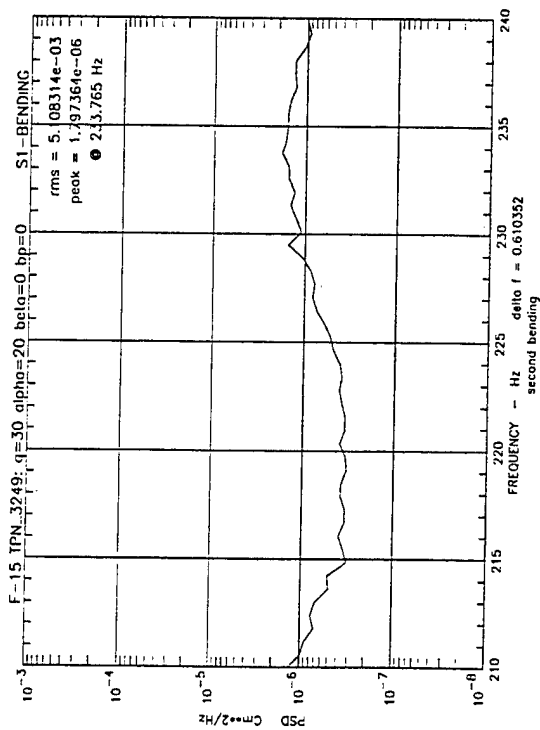


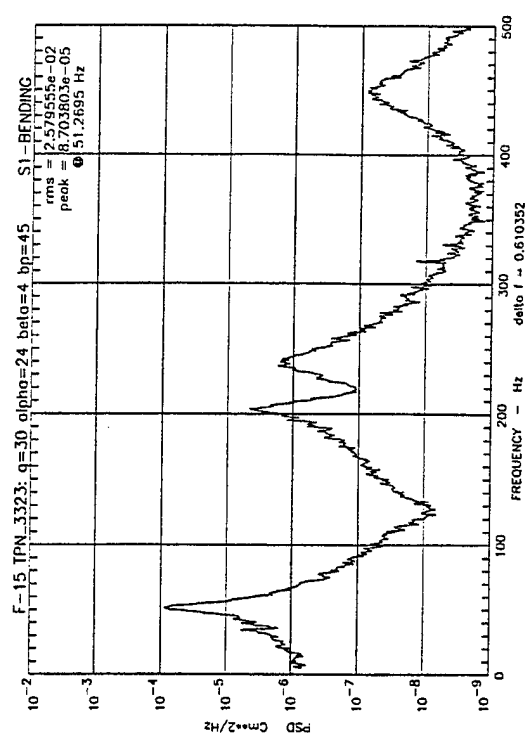
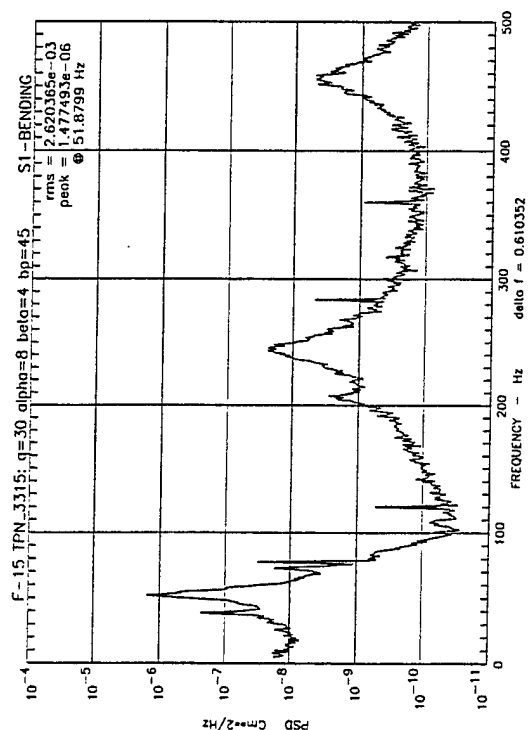
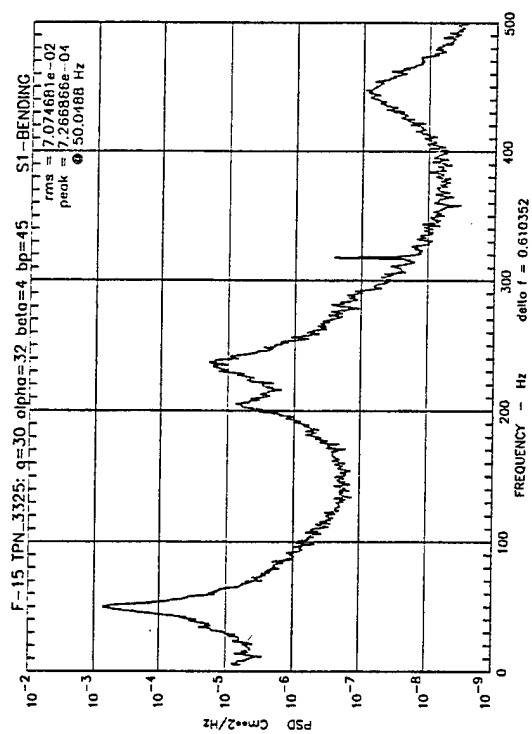
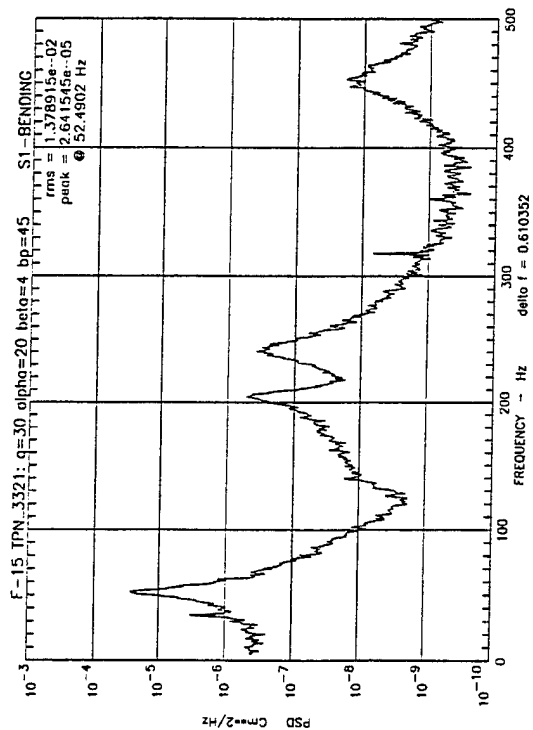


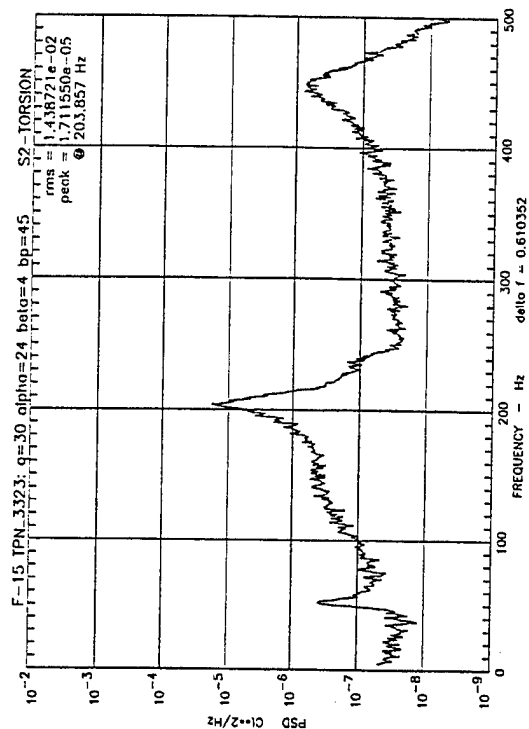
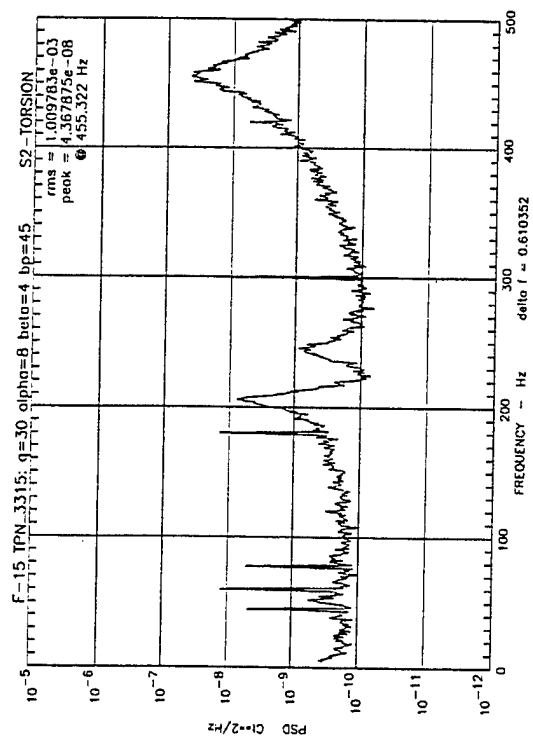
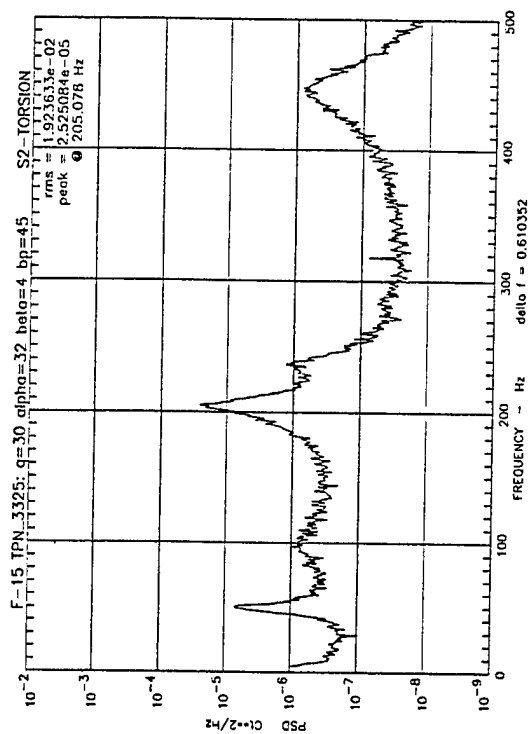
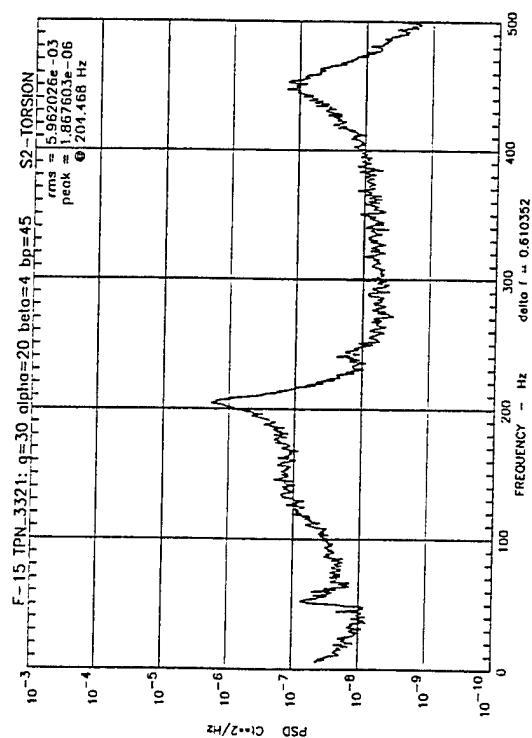


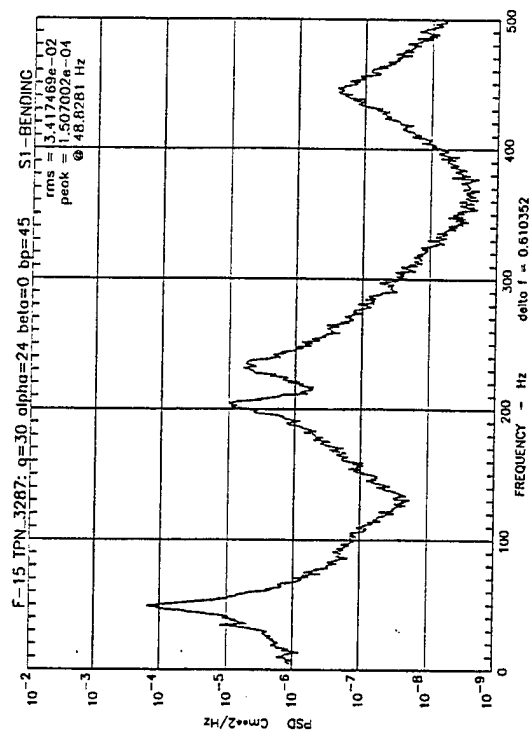
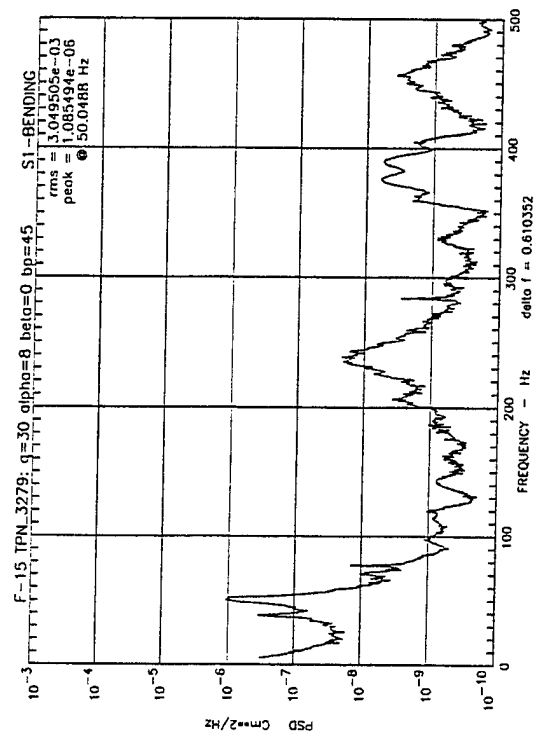
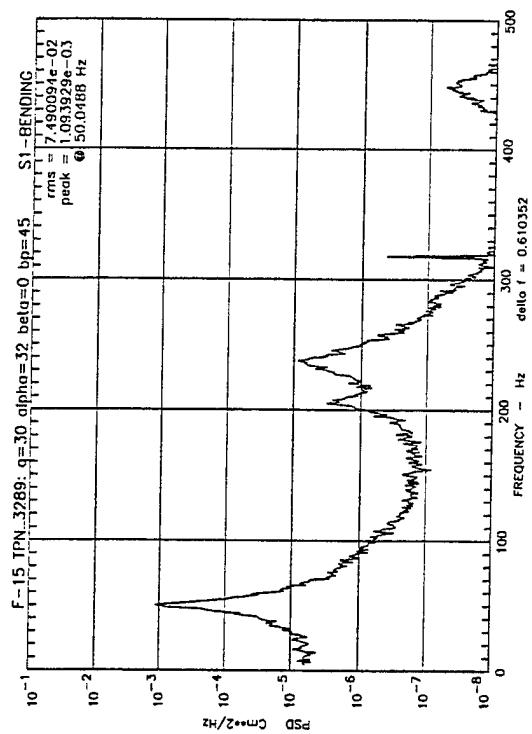
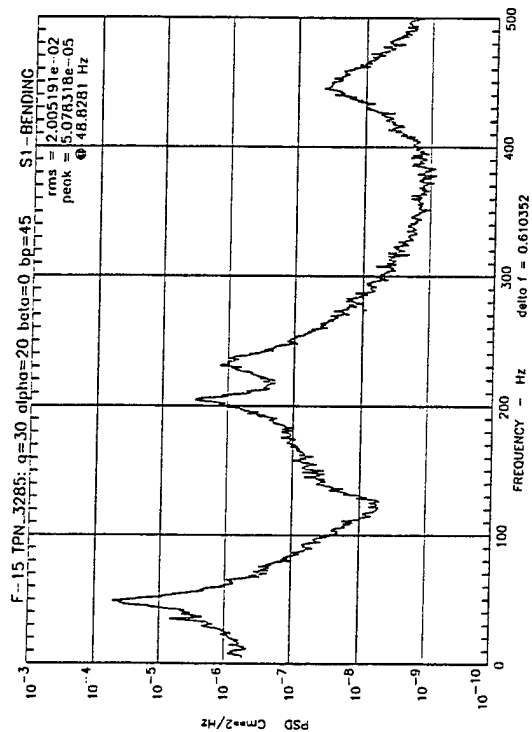


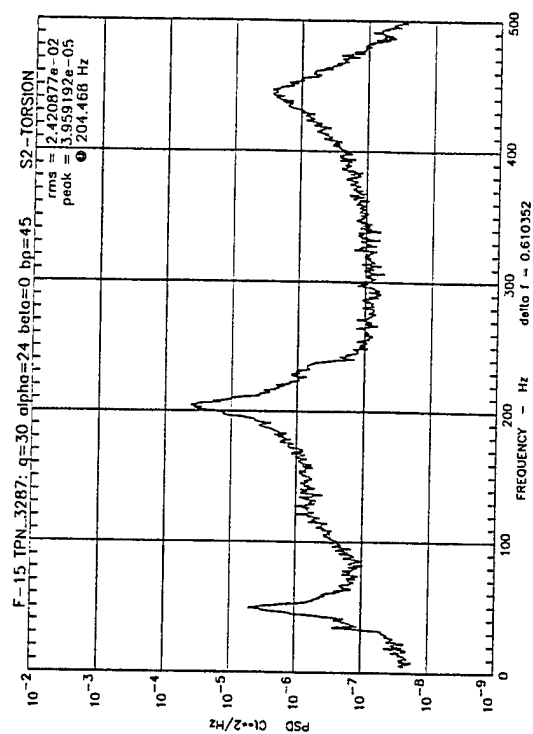
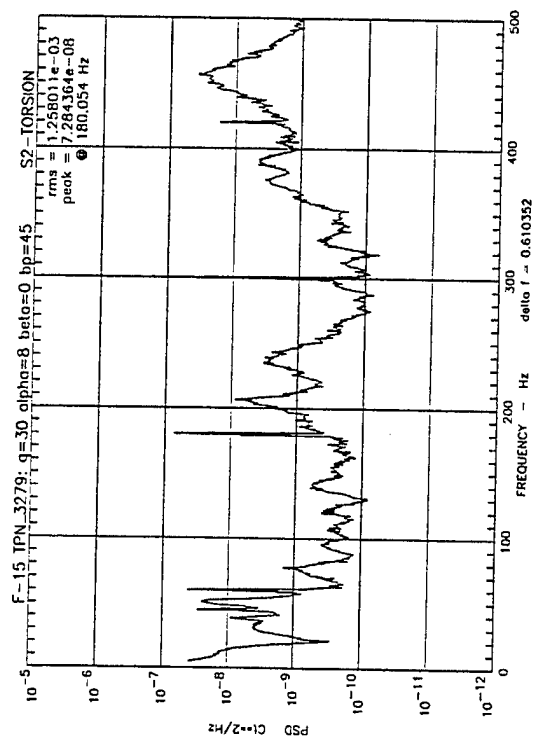
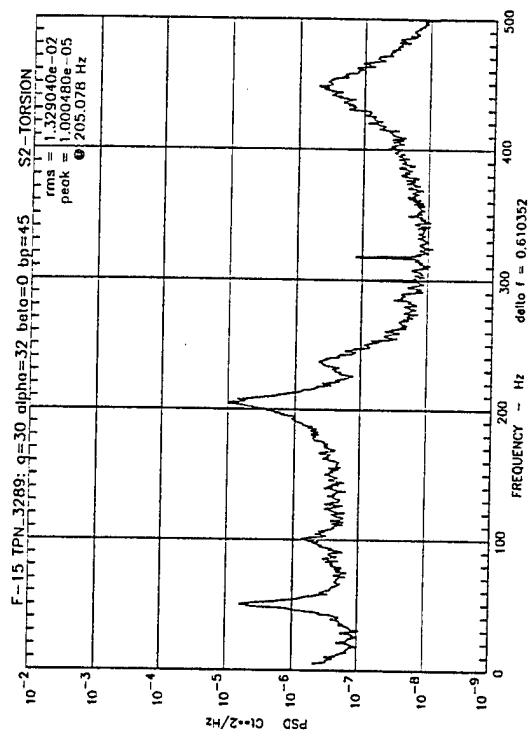
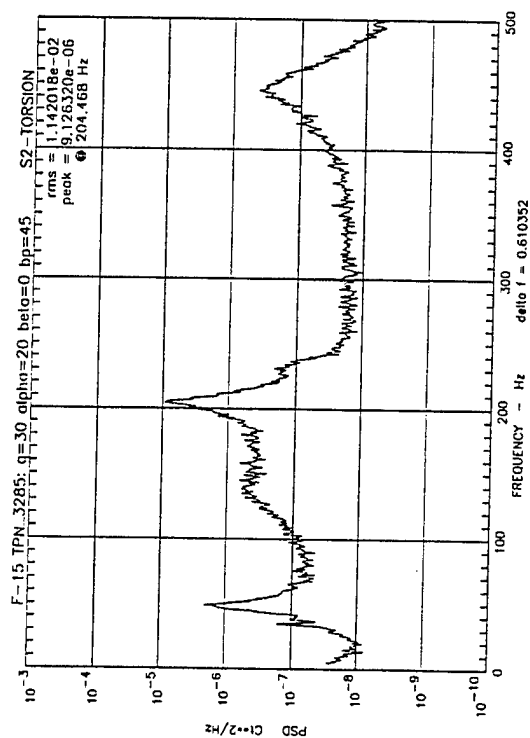


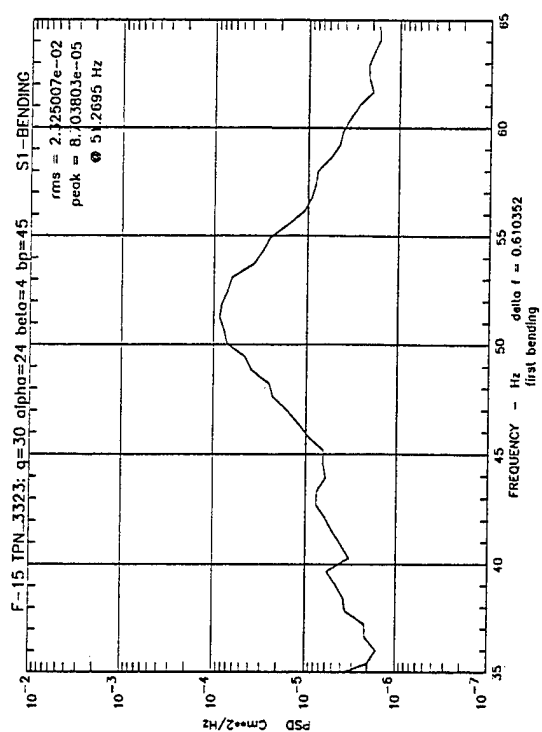
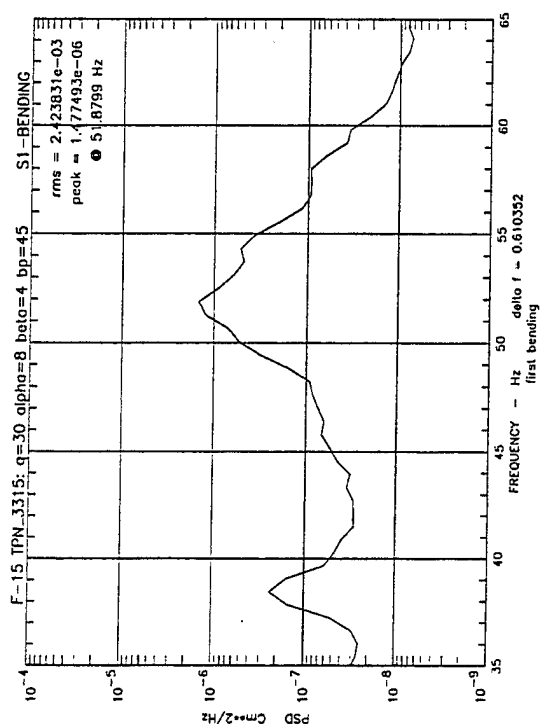
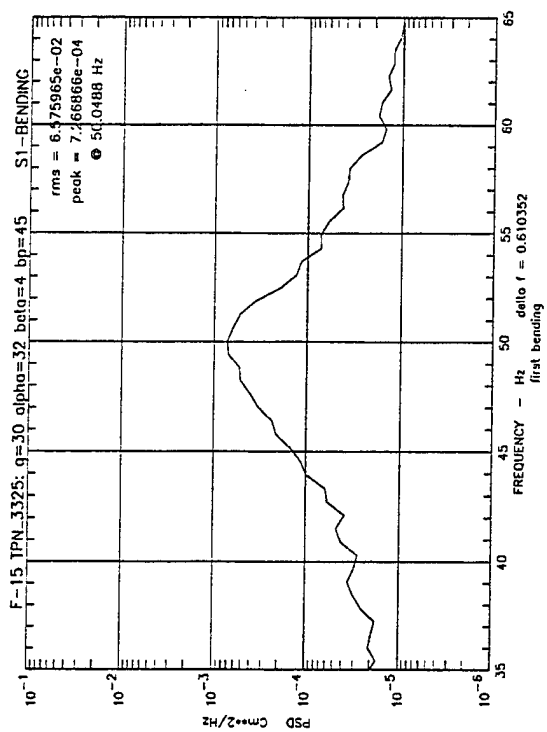
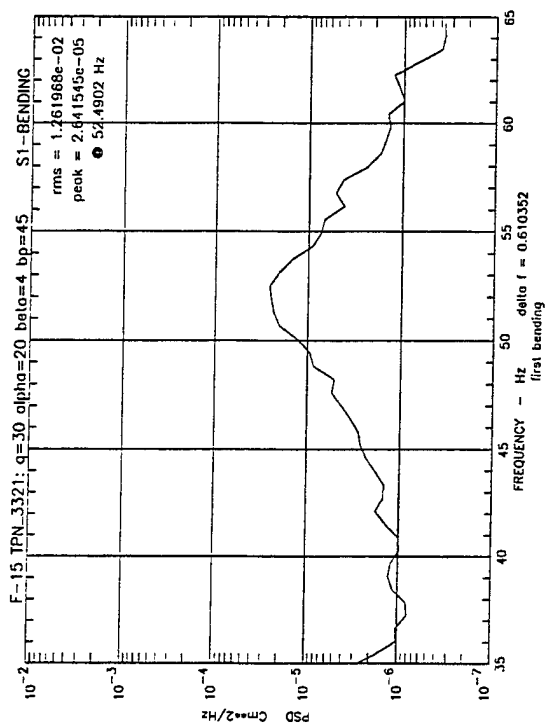


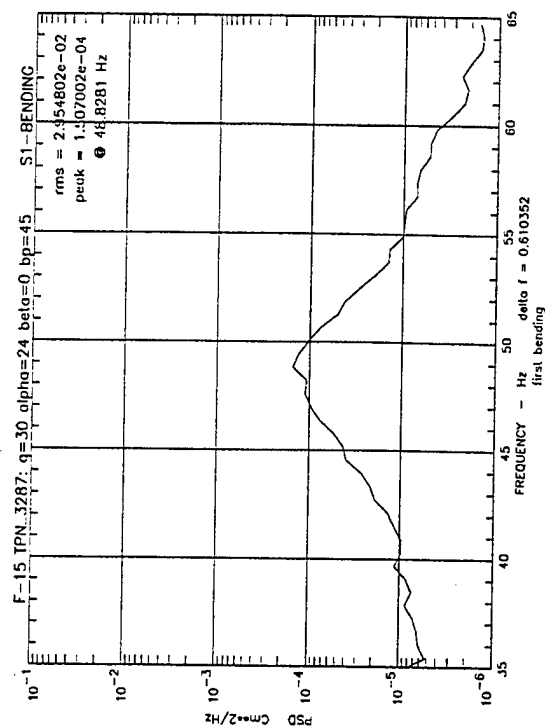
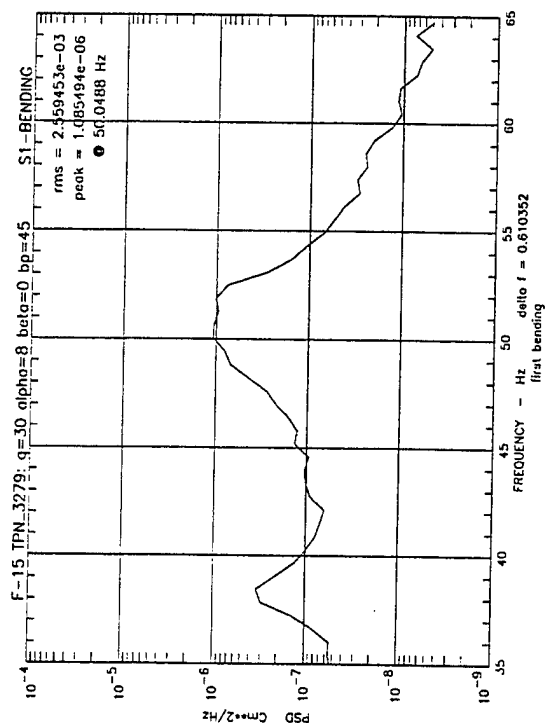
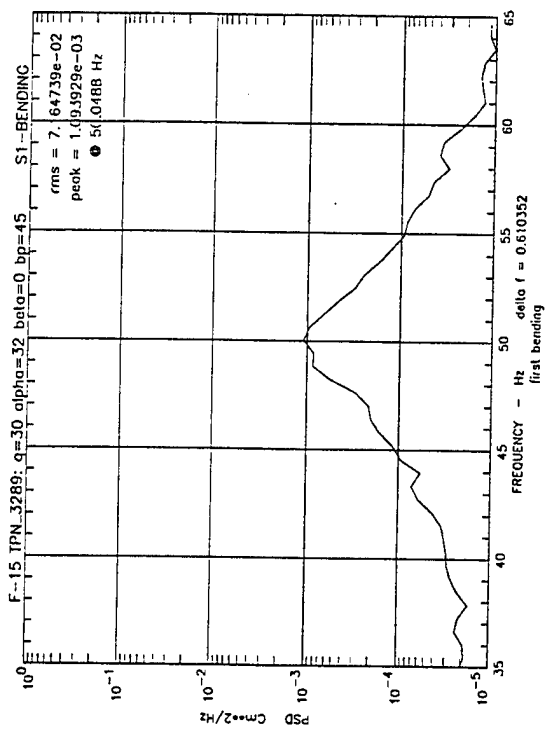
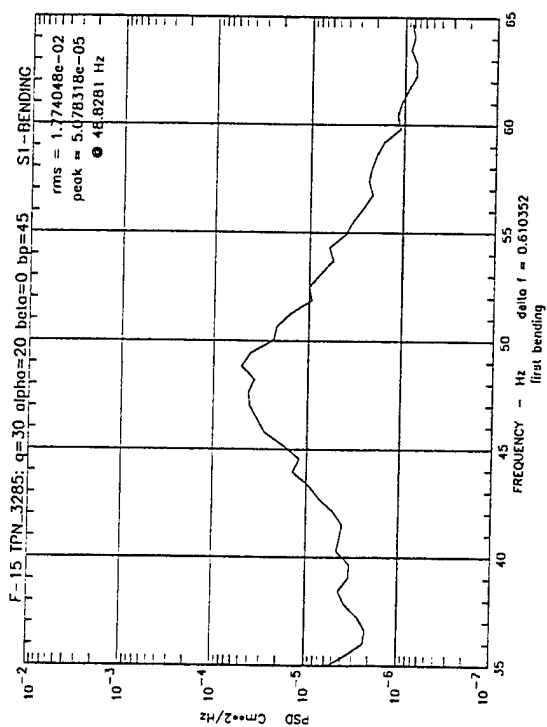


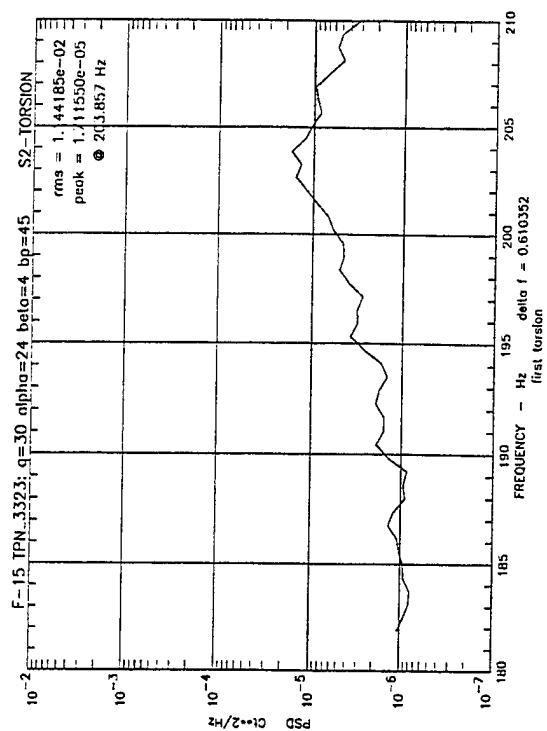
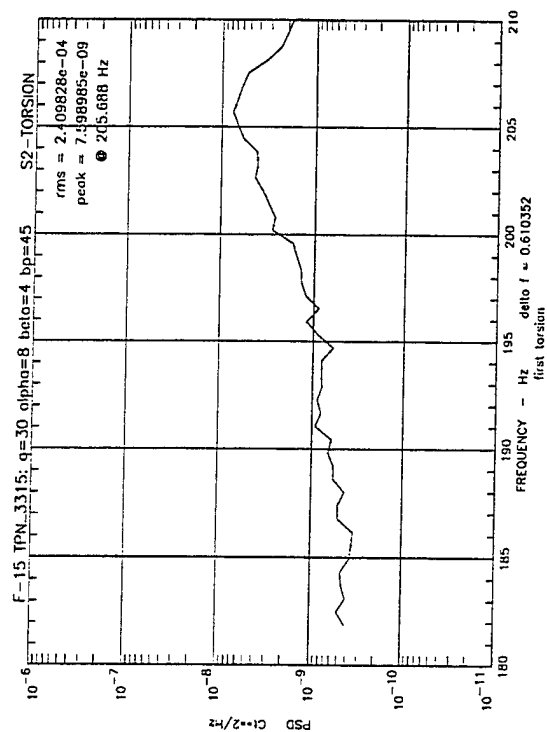
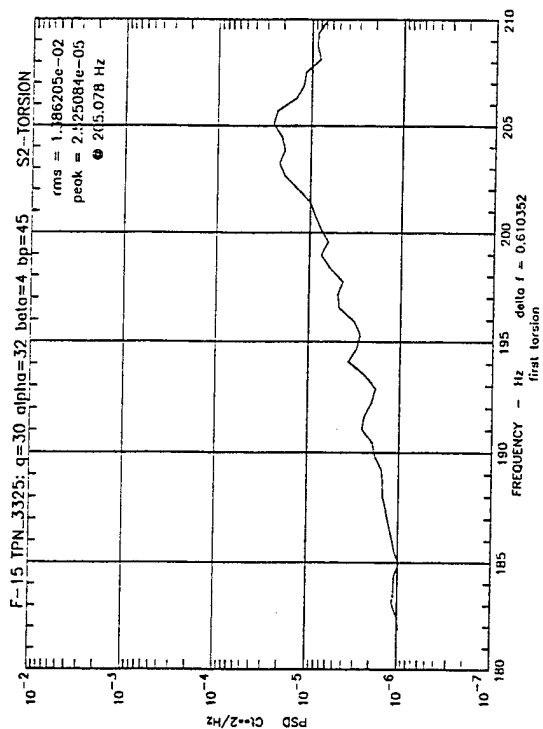
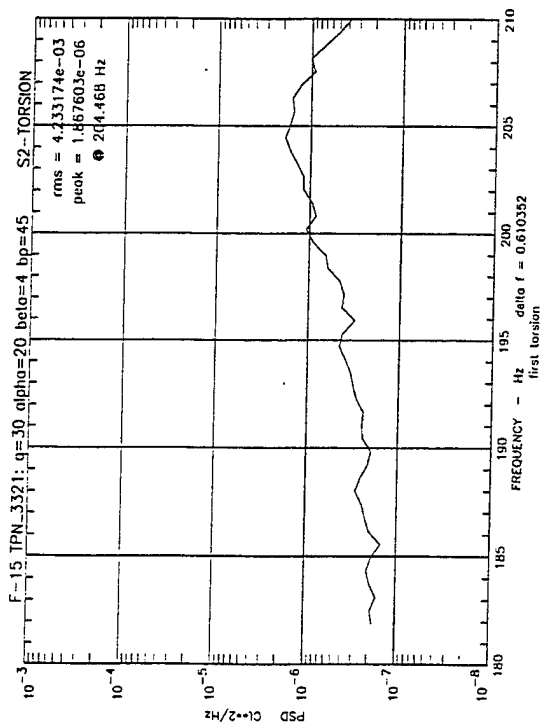


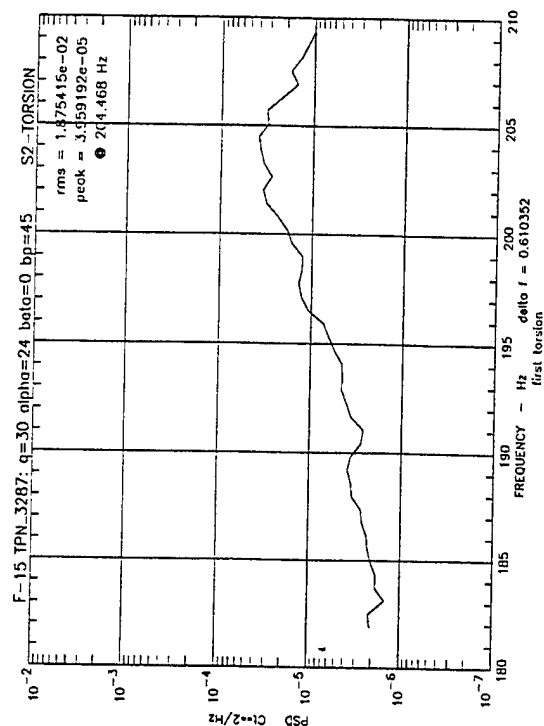
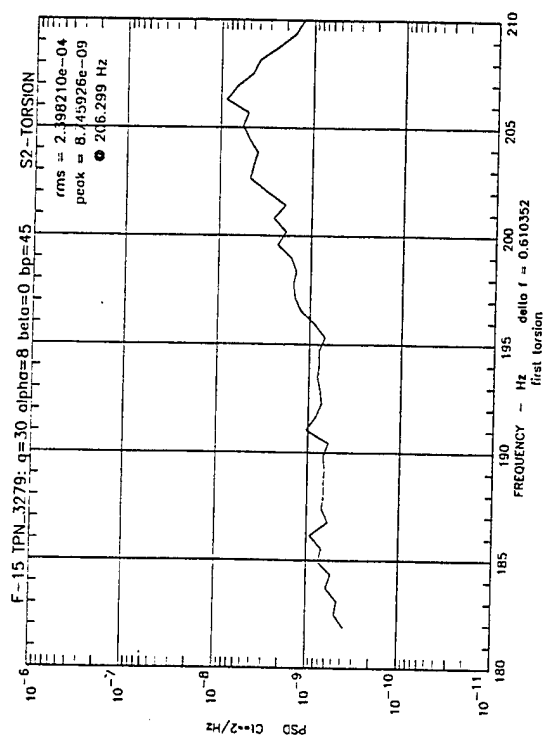
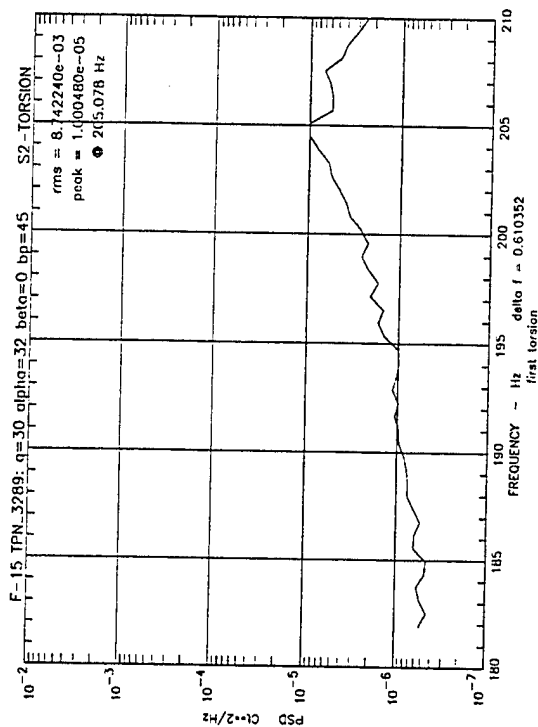
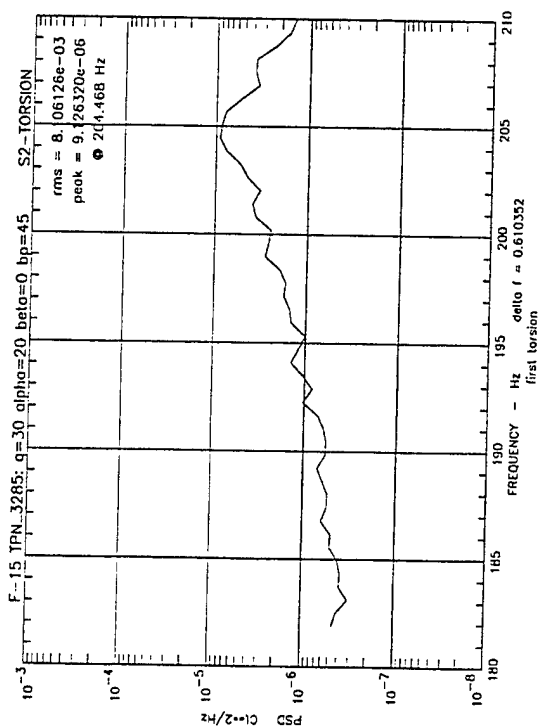


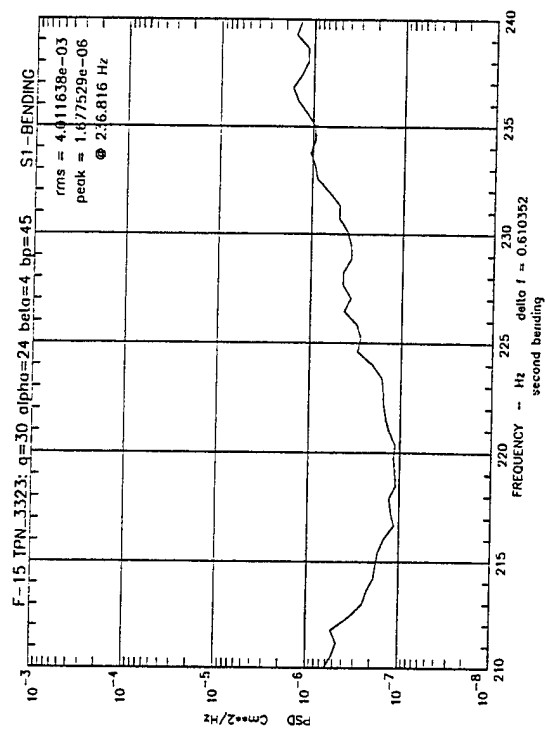
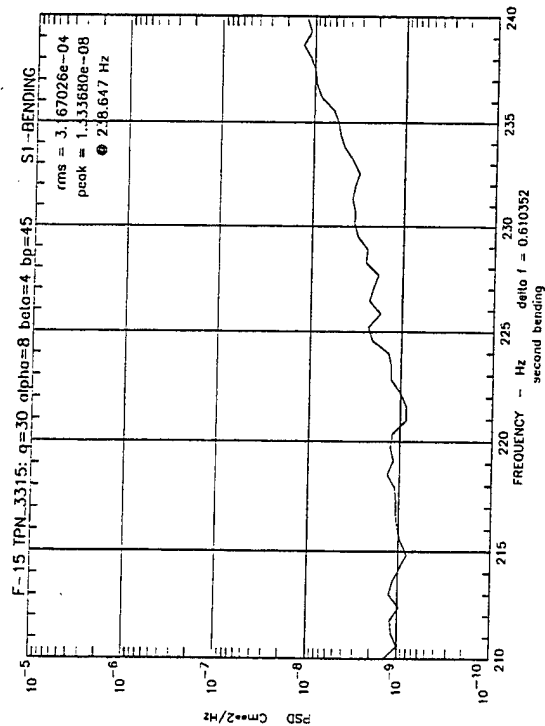
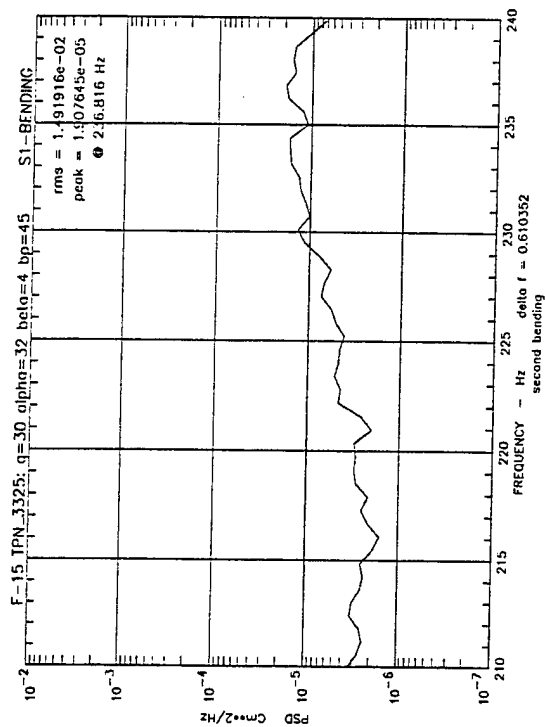
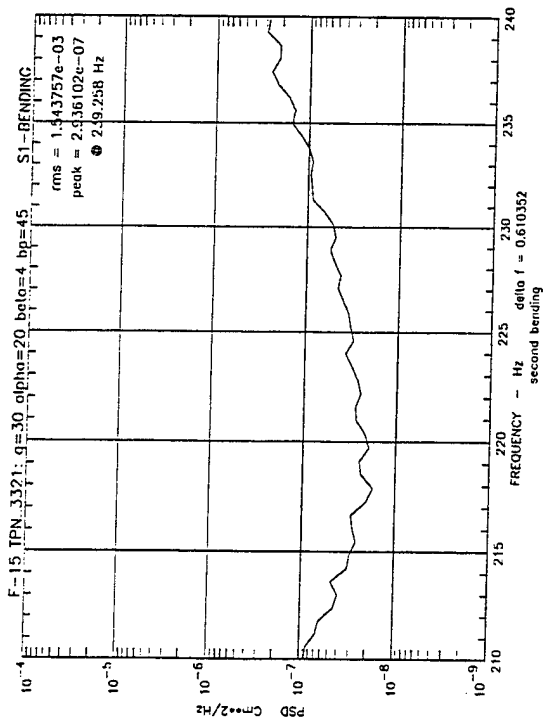


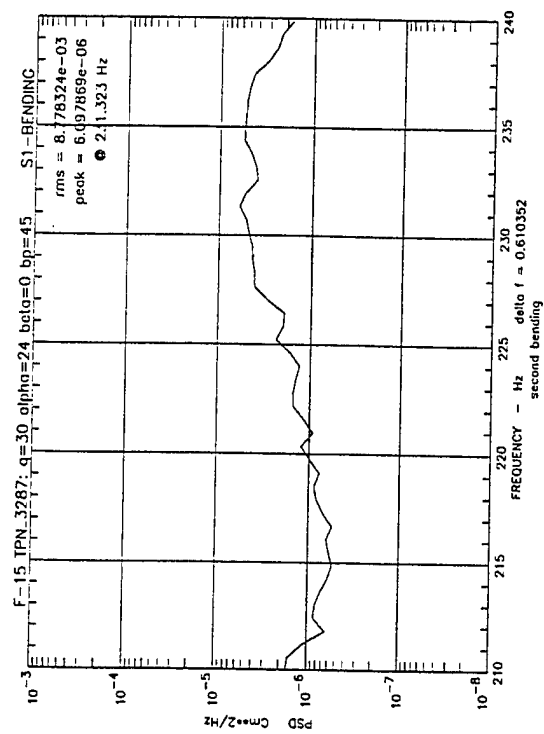
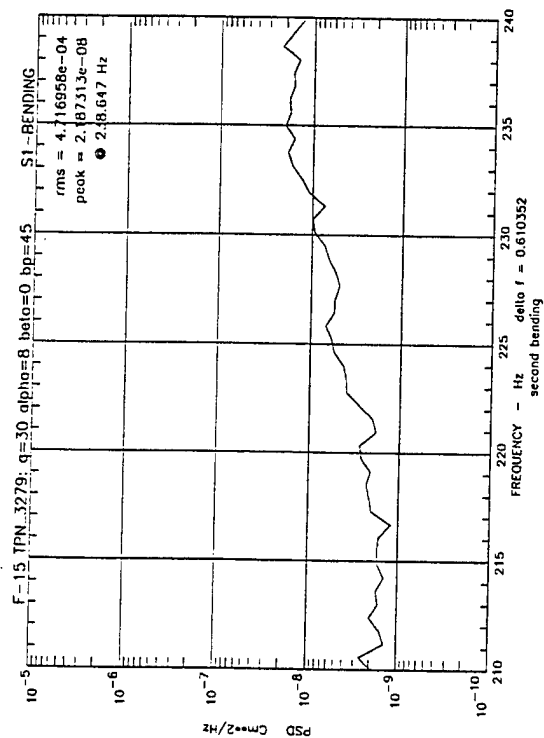
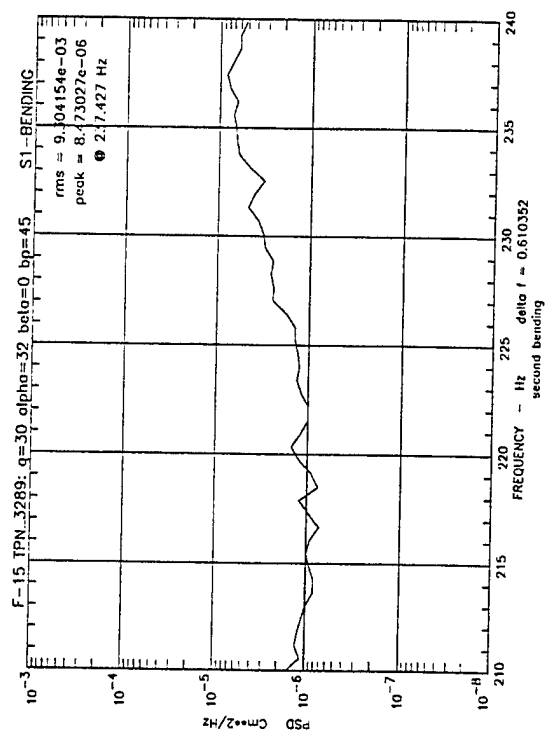
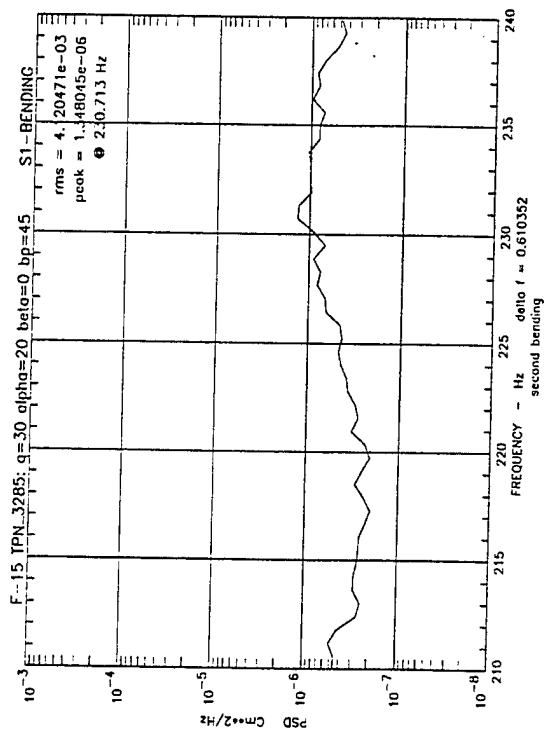












**FLEXIBLE TAIL RESPONSE
NON DIMENSIONAL BENDING AND TORSION**

Q= 30 PSF

3.2.2 RMS SUMMARY TABS

F-15 Vertical Tail Buffet Test: Overall RMS (Cm & Ct nondimensional units), Q=30 psi

0 psi blowing pressure:

<u>Beta</u>	<u>Alpha</u>	<u>bending</u> <u>5-500 Hz</u>	<u>torsion</u> <u>5-500 Hz</u>	<u>1st bending</u> <u>35-65 Hz</u>	<u>1st torsion</u> <u>180-210 Hz</u>	<u>2nd bending</u> <u>210-240 Hz</u>
4	8	.00232	.00083	.00214	.00017	.00030
4	20	.01438	.00734	.01310	.00567	.00168
4	24	.03047	.02162	.02657	.01717	.00555
4	32	.07895	.02511	.07289	.01910	.01667
0	8	.00284	.00112	.00262	.00019	.00053
0	20	.02384	.01575	.02088	.01198	.00511
0	24	.03922	.03115	.03288	.02311	.01228
0	32	.09048	.01568	.08712	.01021	.00882

45 psi blowing pressure:

<u>Beta</u>	<u>Alpha</u>	<u>bending</u> <u>5-500 Hz</u>	<u>torsion</u> <u>5-500 Hz</u>	<u>1st bending</u> <u>35-65 Hz</u>	<u>1st torsion</u> <u>180-210 Hz</u>	<u>2nd bending</u> <u>210-240 Hz</u>
4	8	.00262	.00101	.00242	.00024	.00032
4	20	.01379	.00596	.01262	.00423	.00154
4	24	.02580	.01439	.02325	.01144	.00401
4	32	.07075	.01924	.06576	.01386	.01492
0	8	.00305	.00126	.00256	.00024	.00047
0	20	.02005	.01142	.01774	.00811	.00412
0	24	.03417	.02421	.02955	.01875	.00878
0	32	.07490	.01329	.07165	.00874	.00930

FLEXIBLE TAIL RESPONSE

4. ACCELERATION DATA - LINEAR, BENDING AND TORSION

4.1 PSD GRAPHS

4.1.1 Q = 56 PSF

4.1.1.1 FWD AND AFT ACCELS

4.1.1.2 BENDING (LINEAR at EA)

4.1.1.3 TORSIONAL (ANGULAR AT EA)

4.1.2 Q=30PSF

4.1.2.1 FWD AND AFT ACCELS.- PSDS

4.1.2.2 BENDING (LINEAR at EA)

4.1.2.3 TORSIONAL (ANGULAR AT EA)

4.2 RMS SUMMARY TABLES

**FLEXIBLE TAIL RESPONSE
ACCELERATION DATA**

Q= 56 PSF

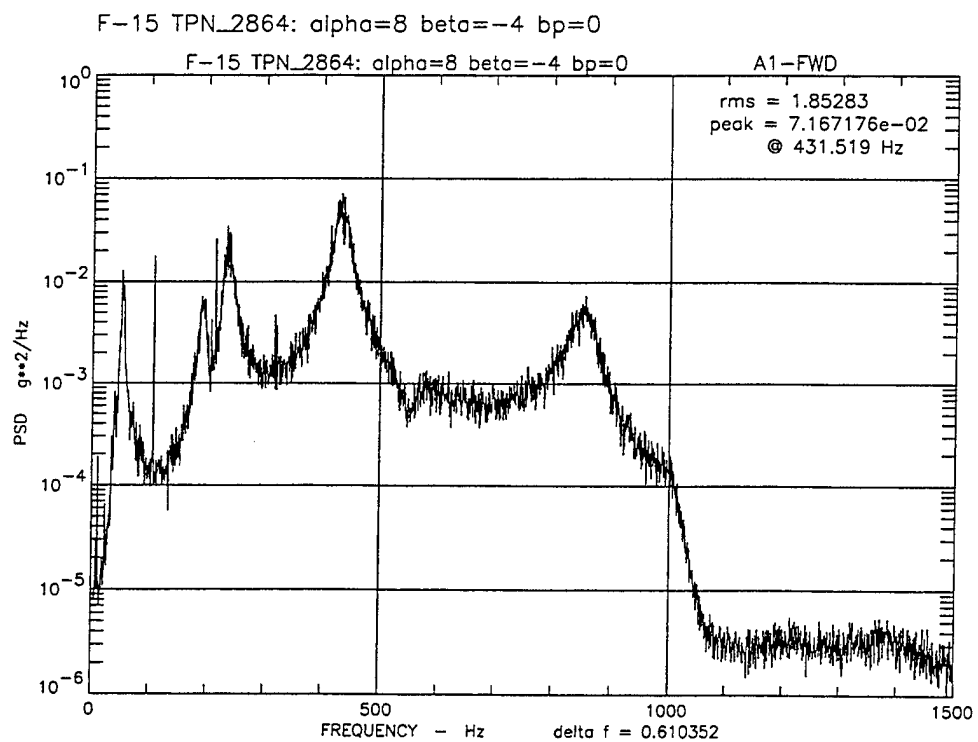
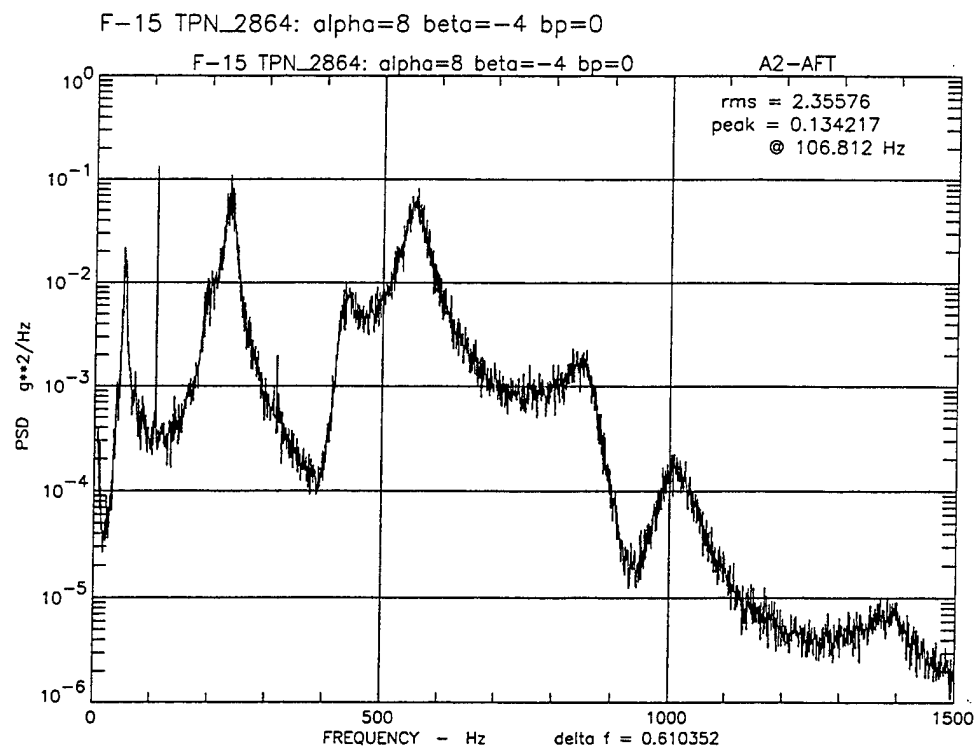
PSD GRAPHS

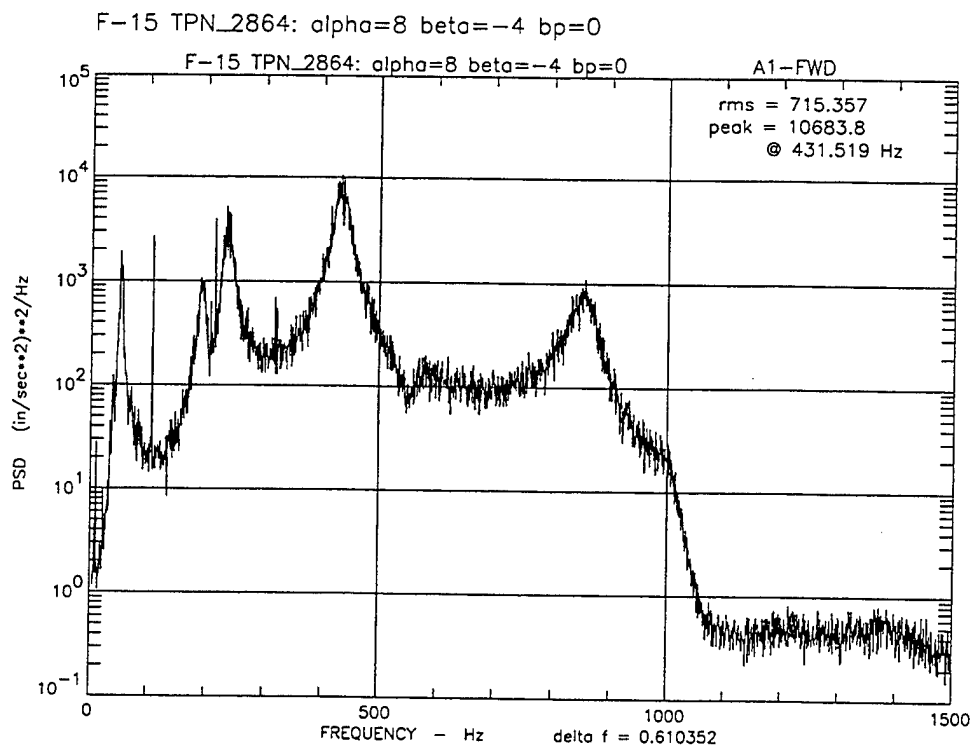
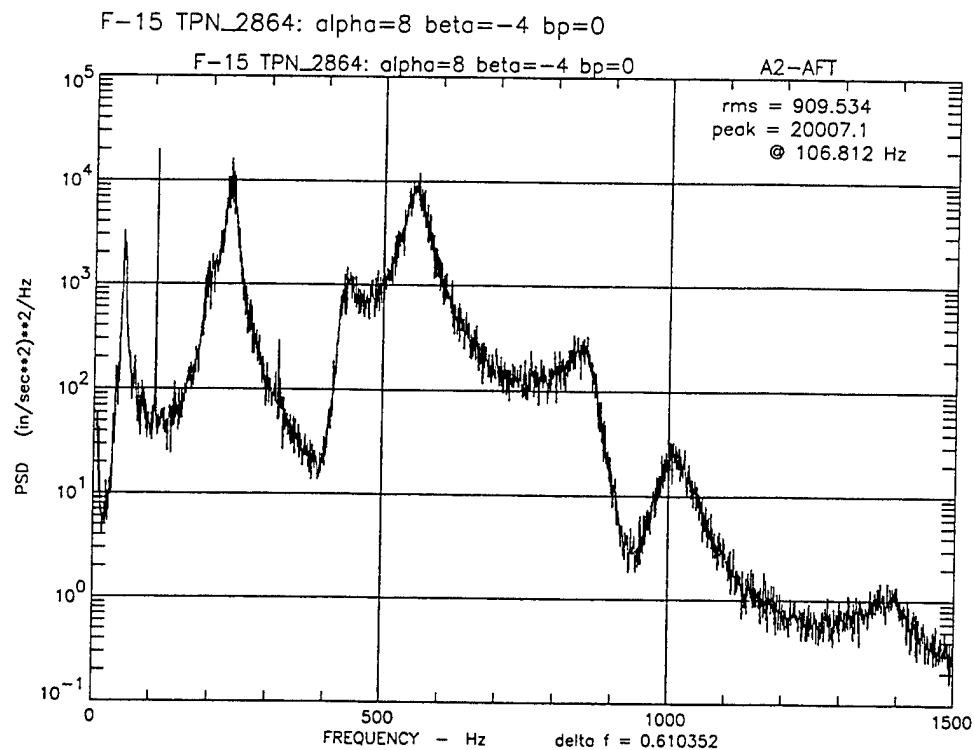
4.1.1.1 FWD AND AFT ACCELS, beta= 0, +4, -4 Deg, WBP = 0, 45, 65 psi

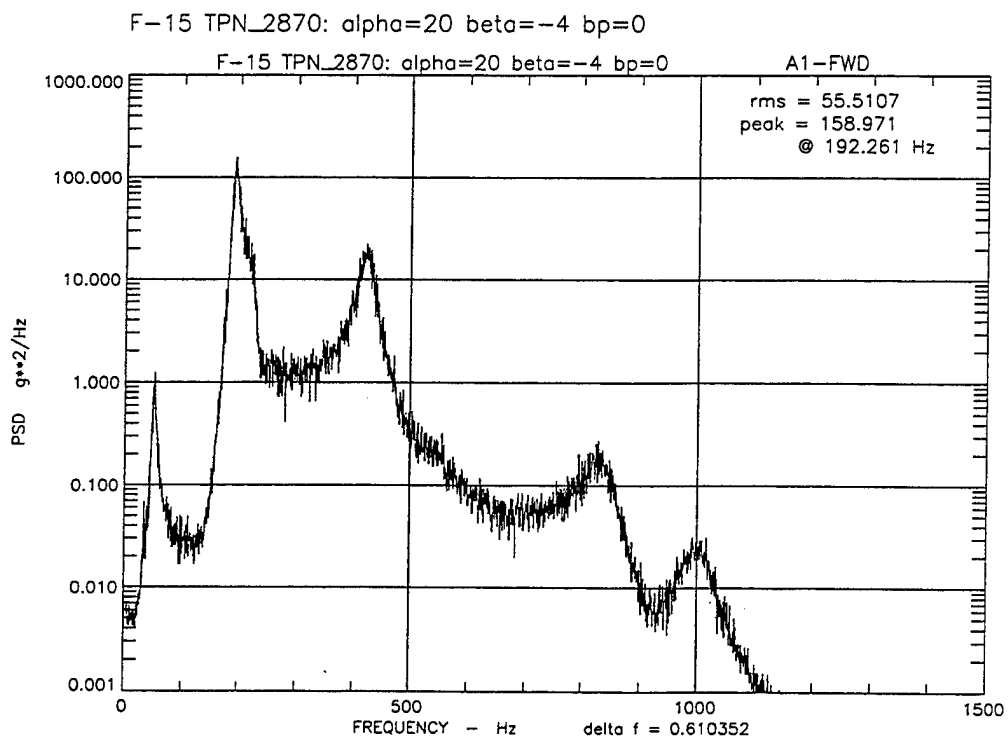
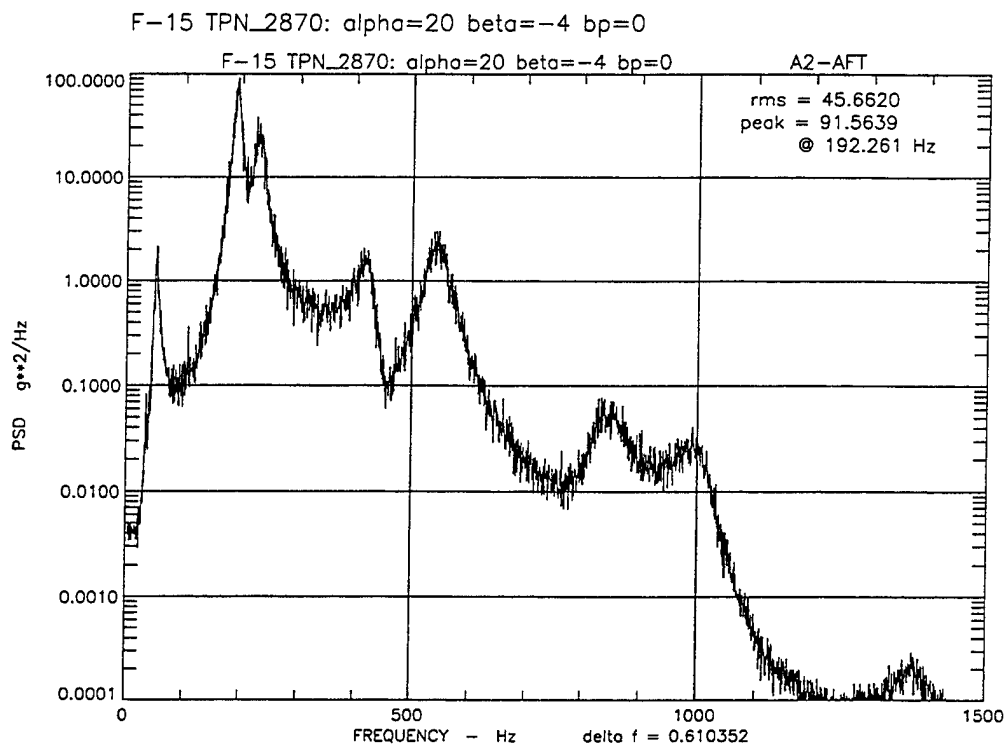
ALPHAS = 8, 20, 24, 32 DEG

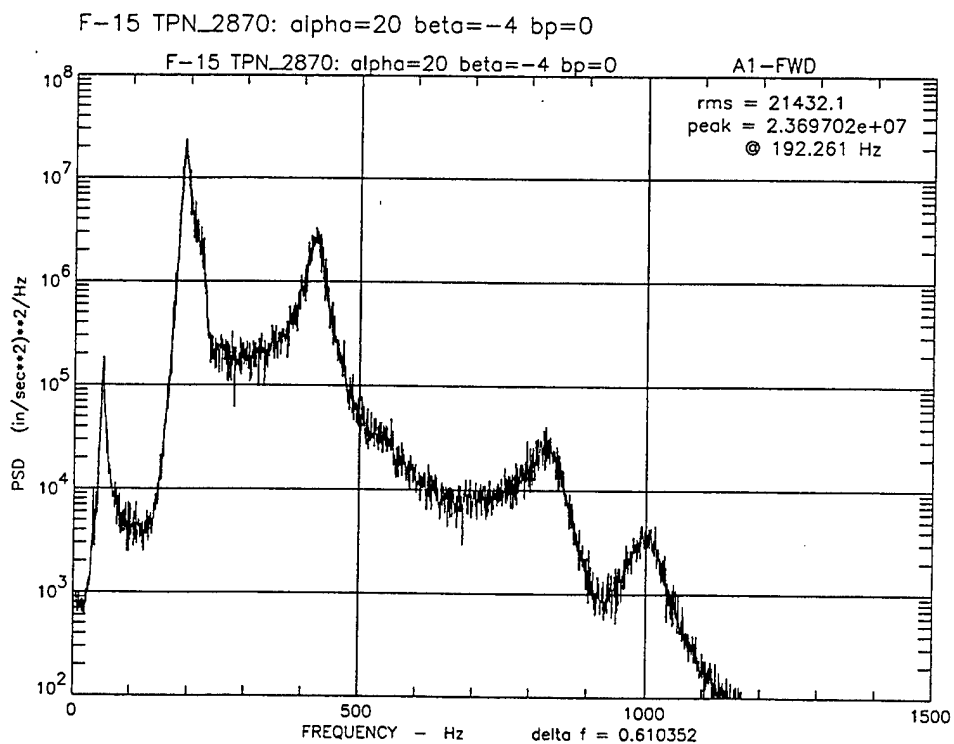
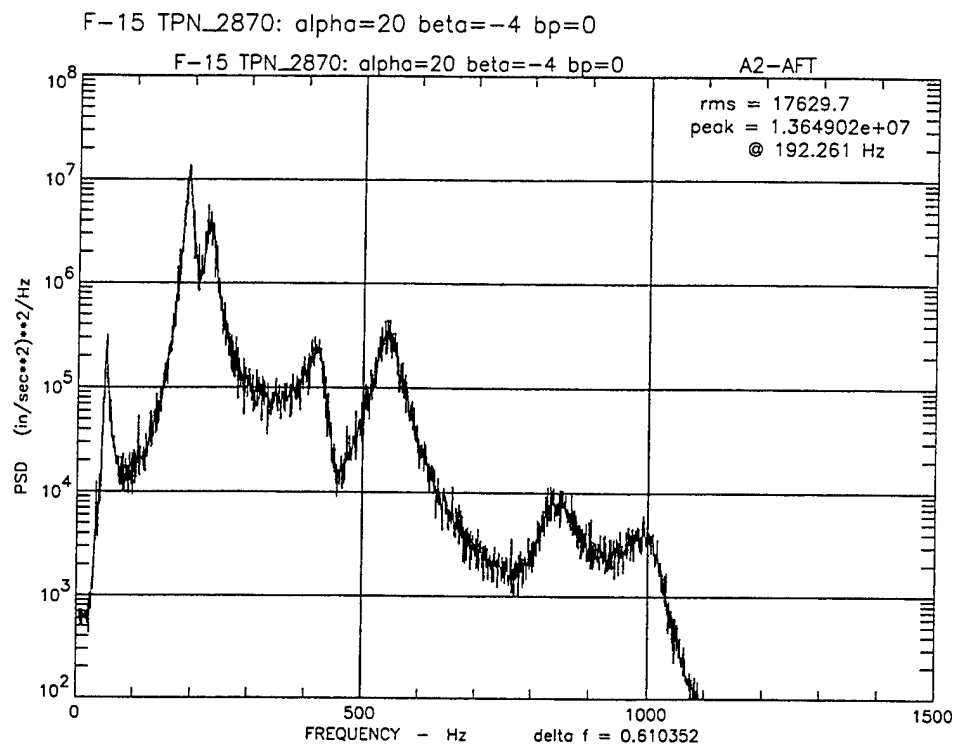
(note, the dimensional graph , $(\text{in/sec})^2/\text{hz}$ is followed by a graph $(\text{g's})^2/\text{hz}$

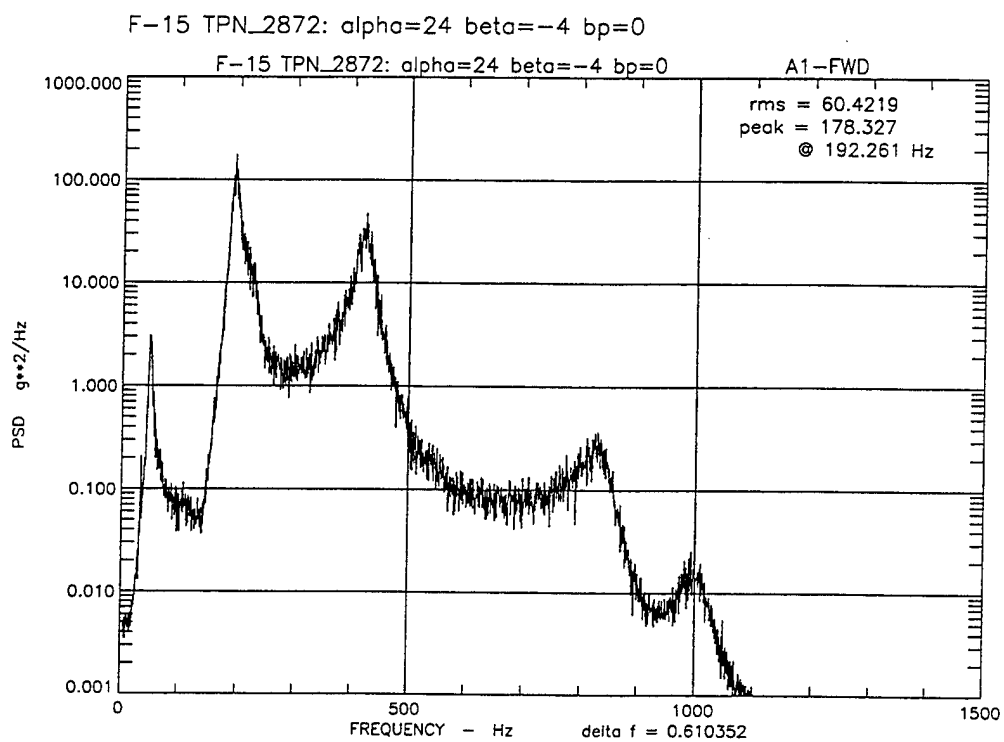
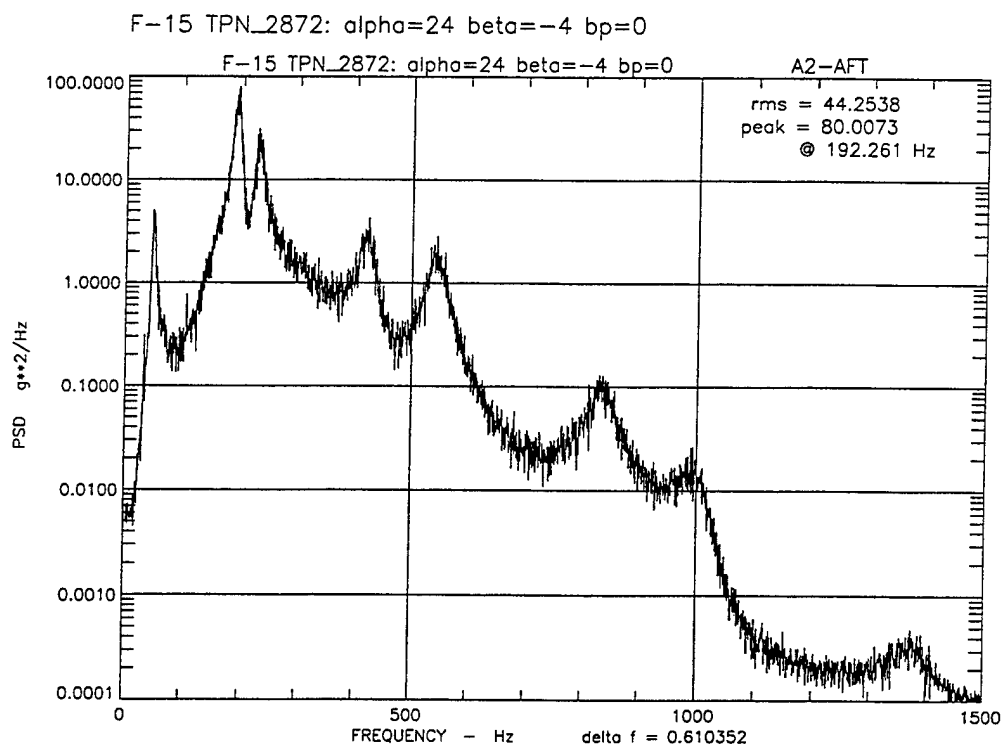
data is blocked off by blowing pressures, with beta variation within

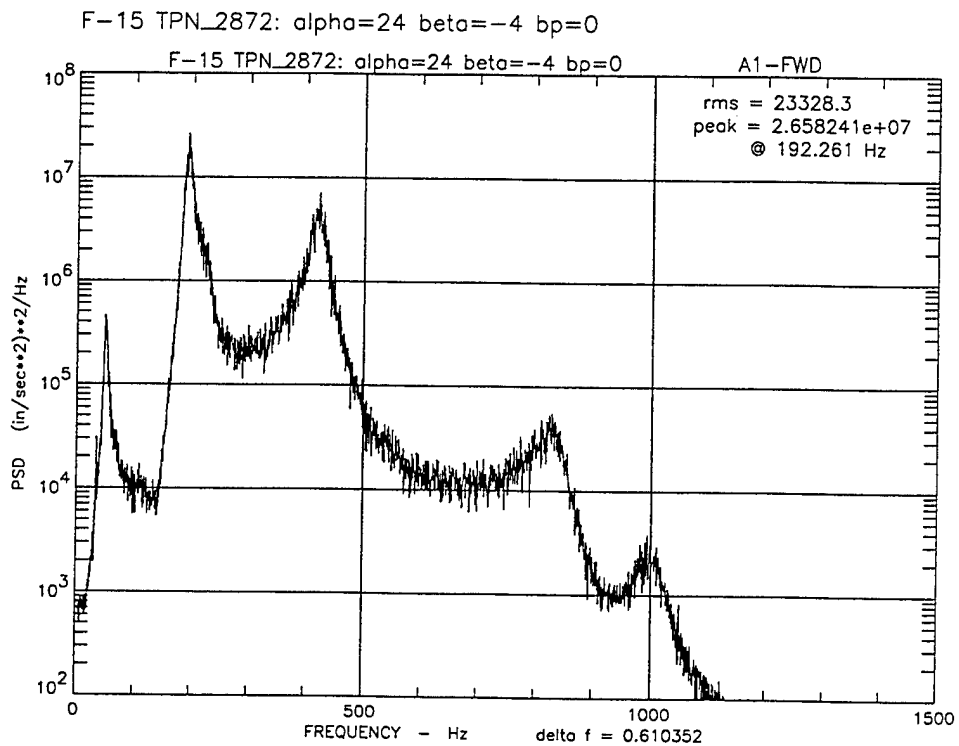
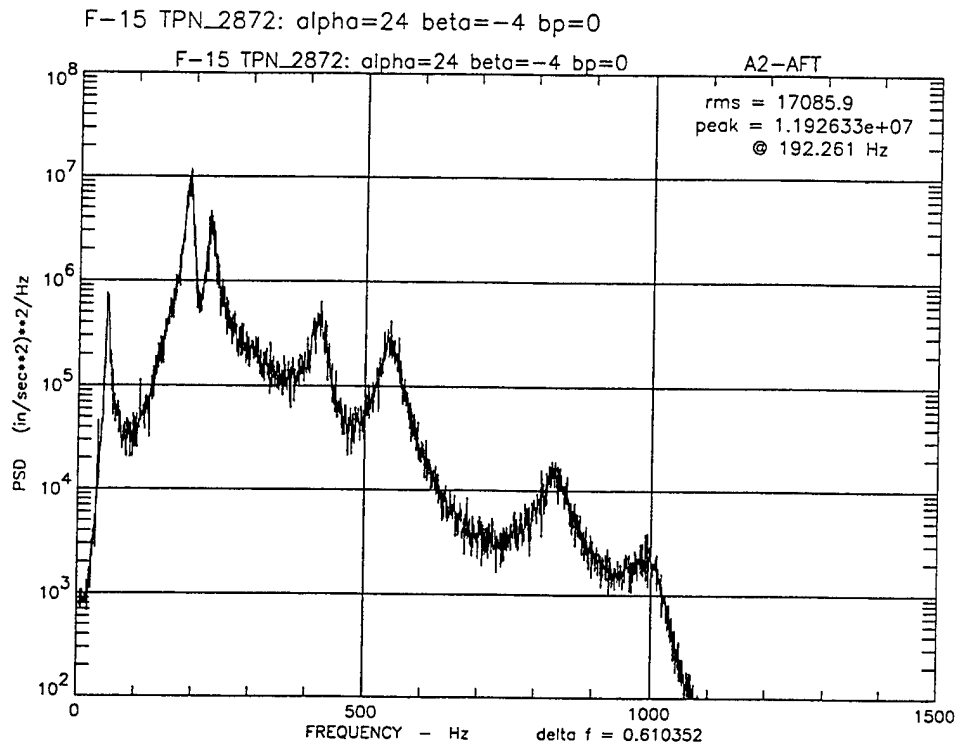




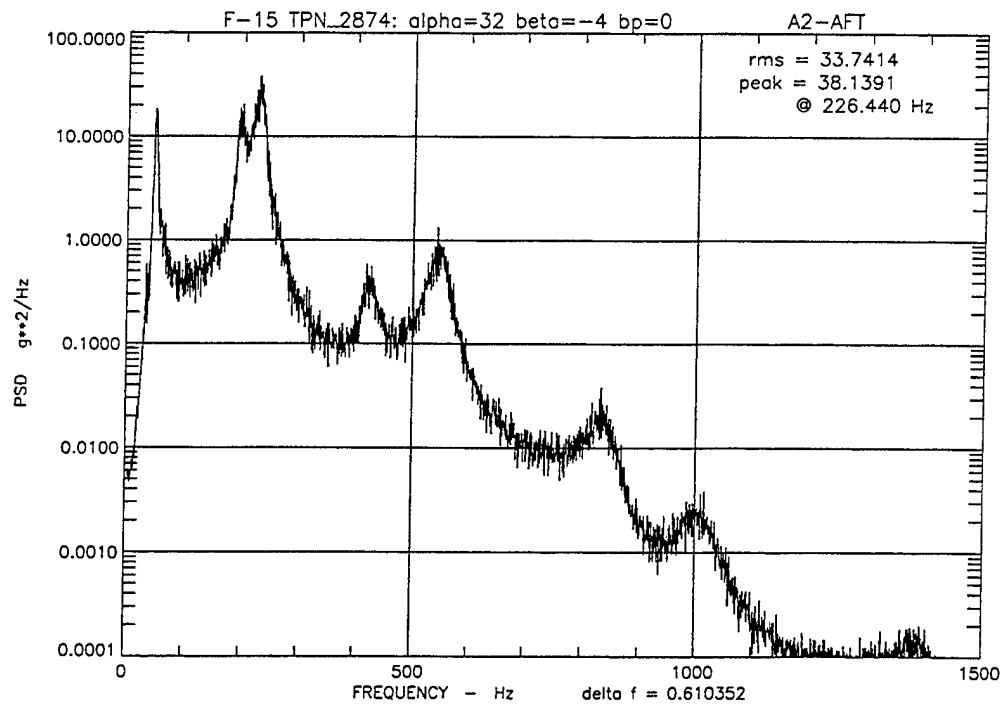




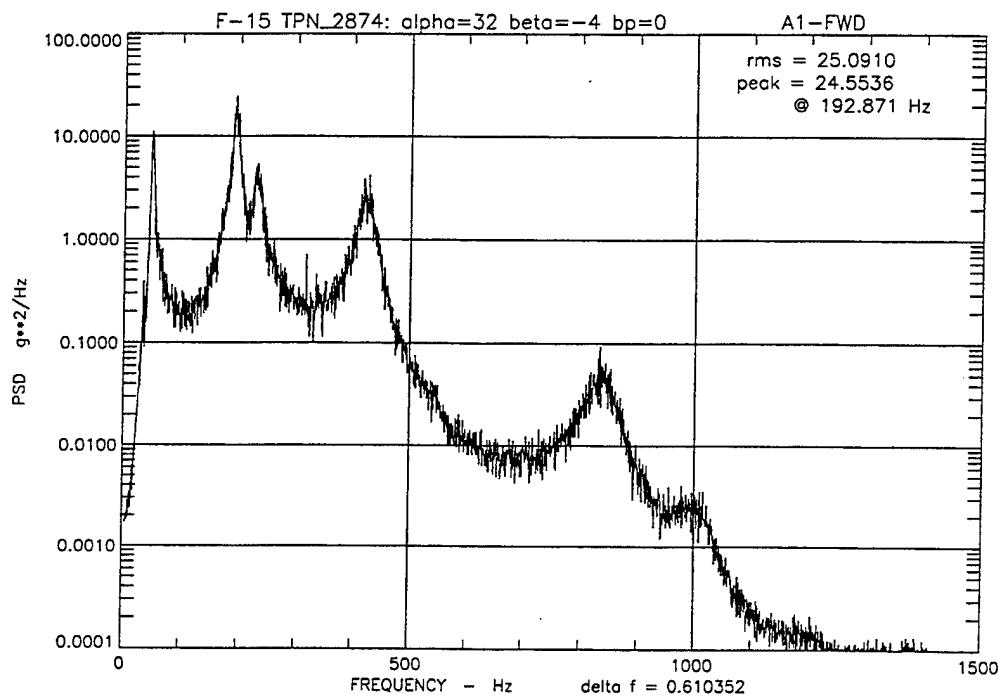




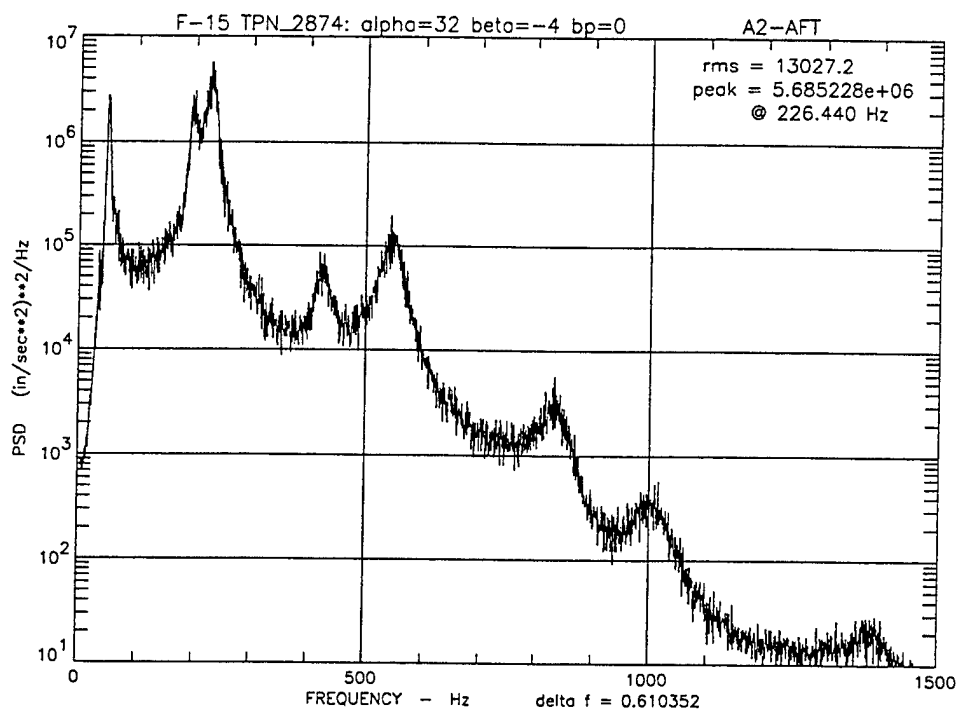
F-15 TPN_2874: $\alpha=32$ $\beta=-4$ $b_p=0$



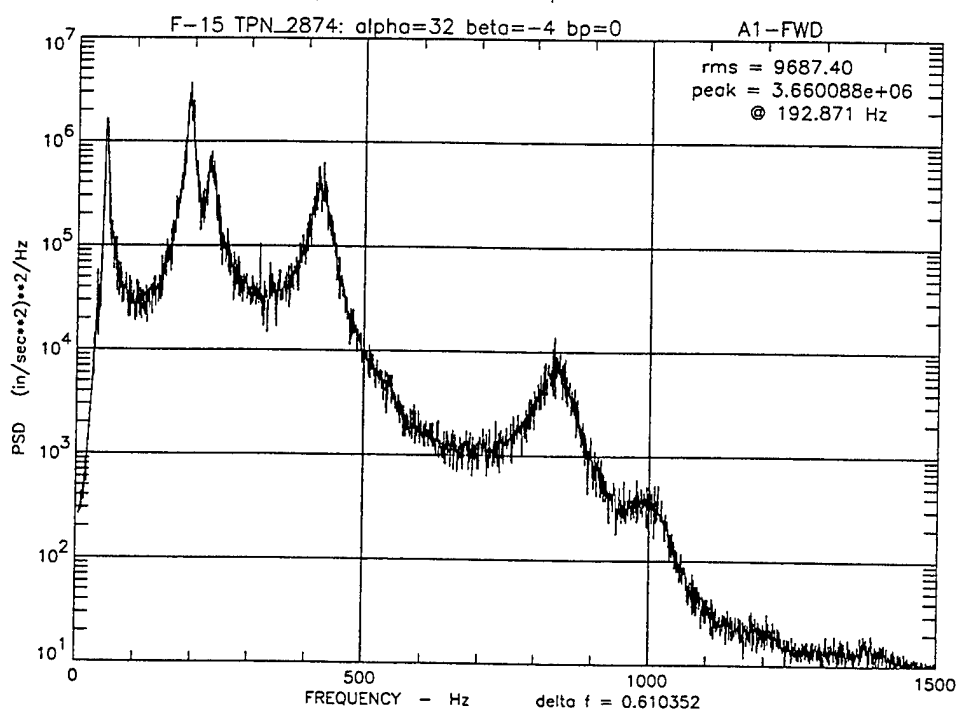
F-15 TPN_2874: $\alpha=32$ $\beta=-4$ $b_p=0$



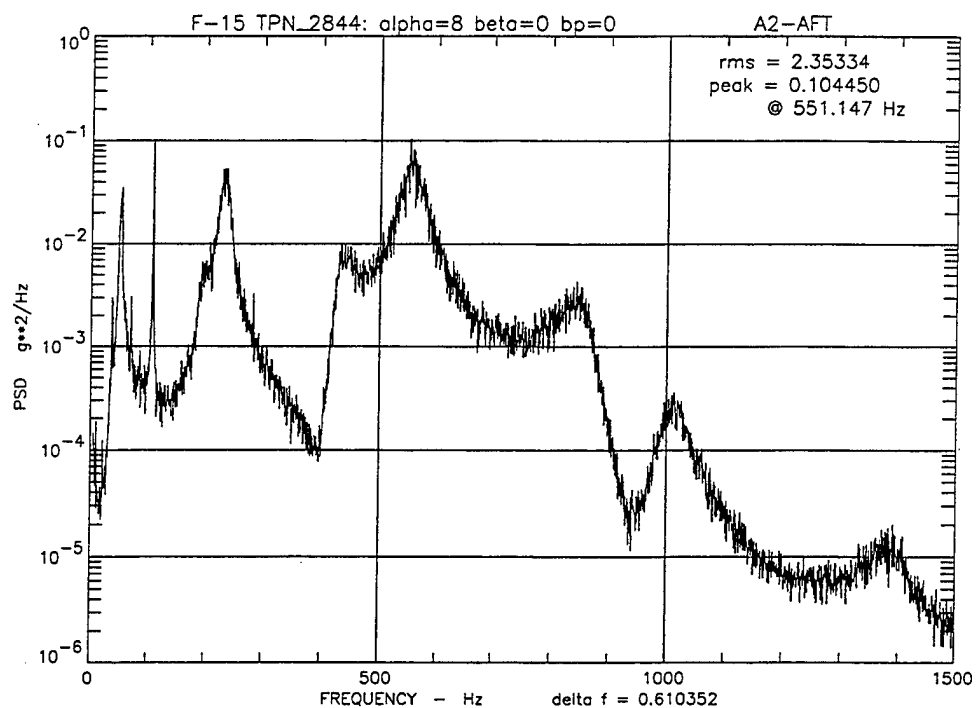
F-15 TPN_2874: alpha=32 beta=-4 bp=0



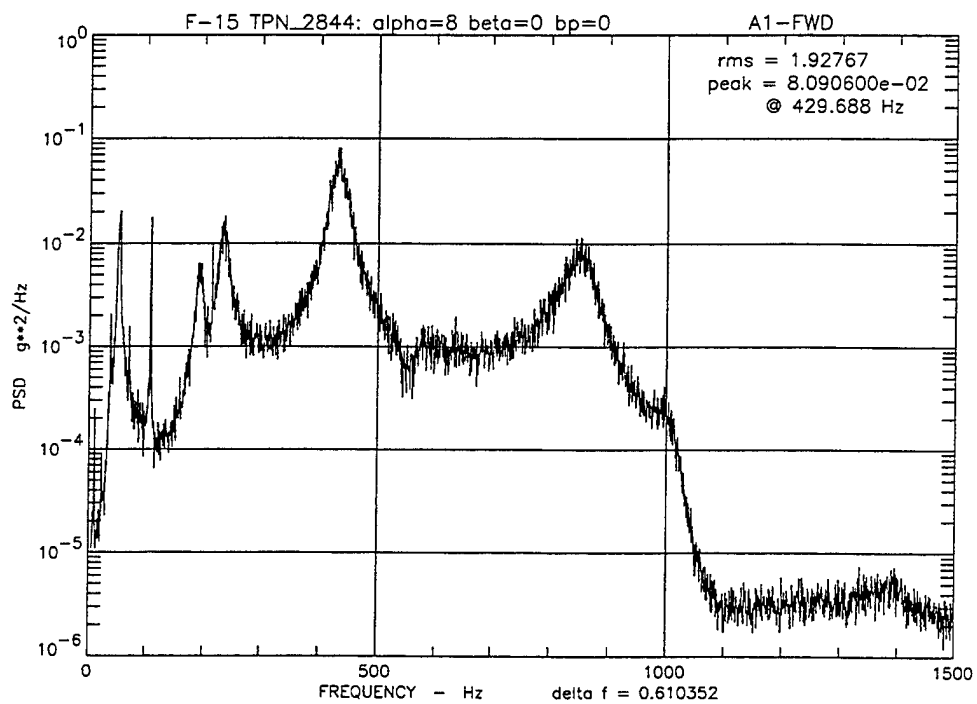
F-15 TPN_2874: alpha=32 beta=-4 bp=0

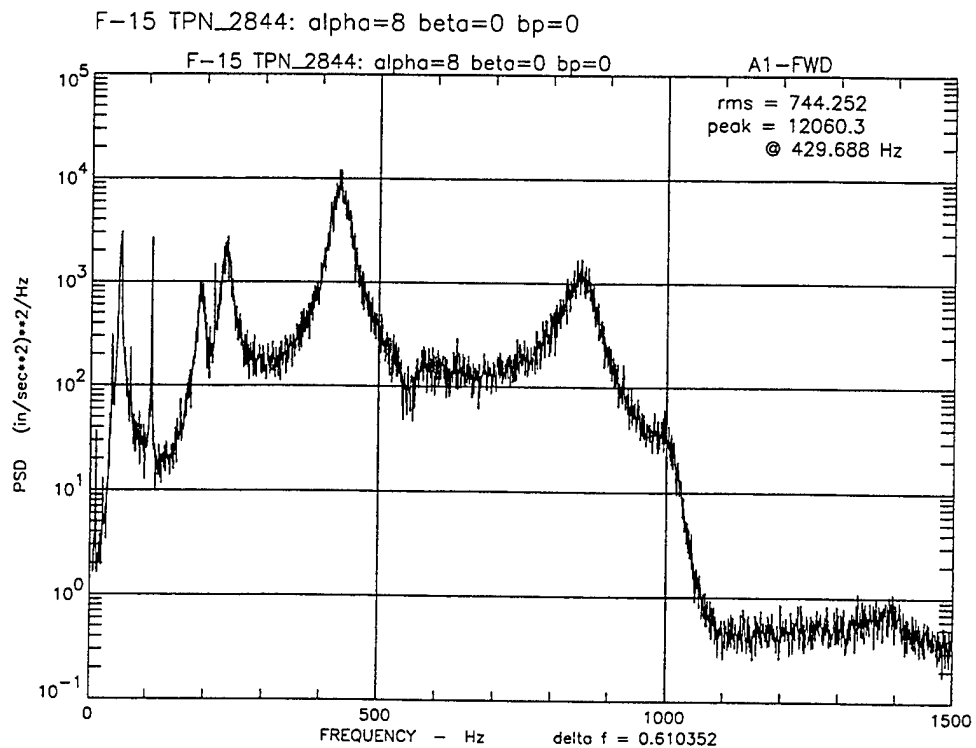
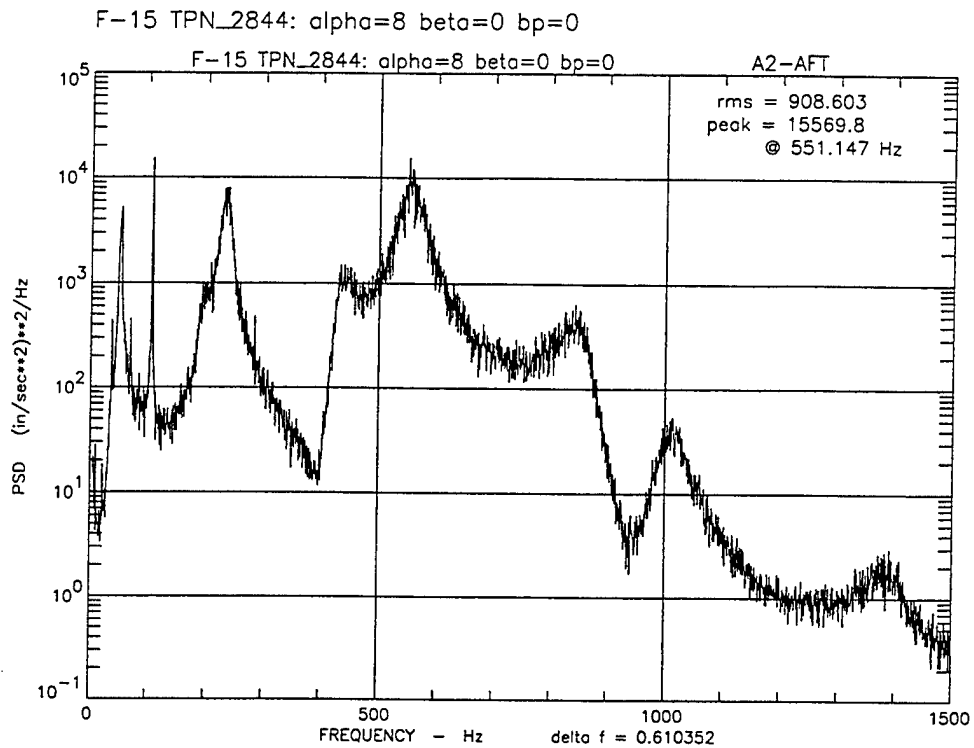


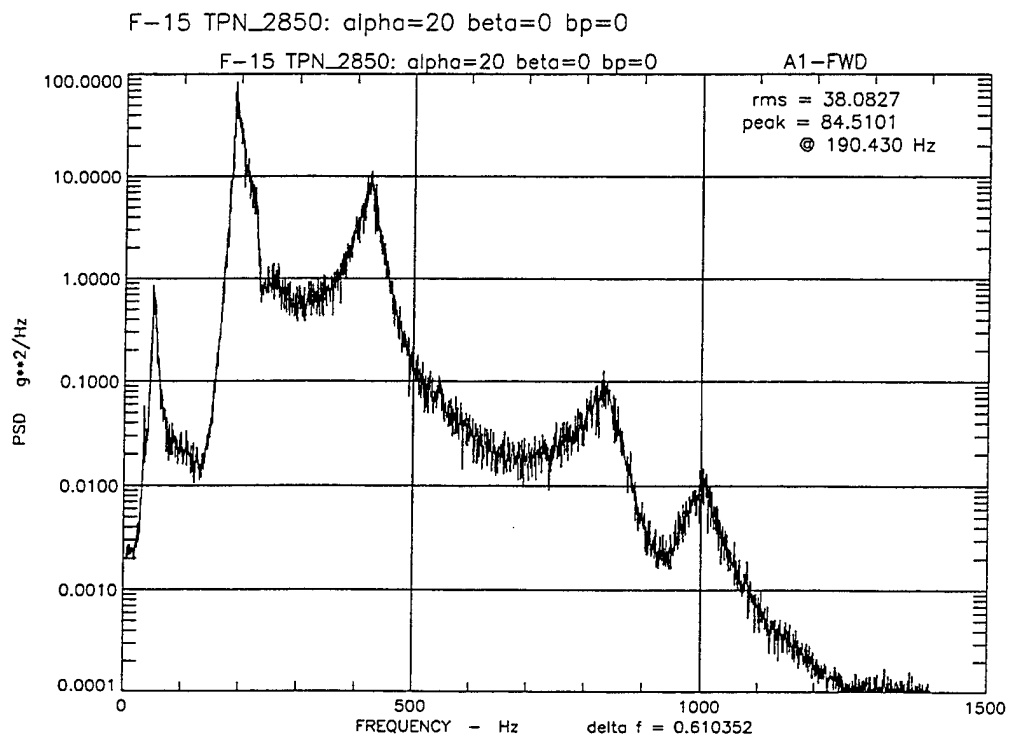
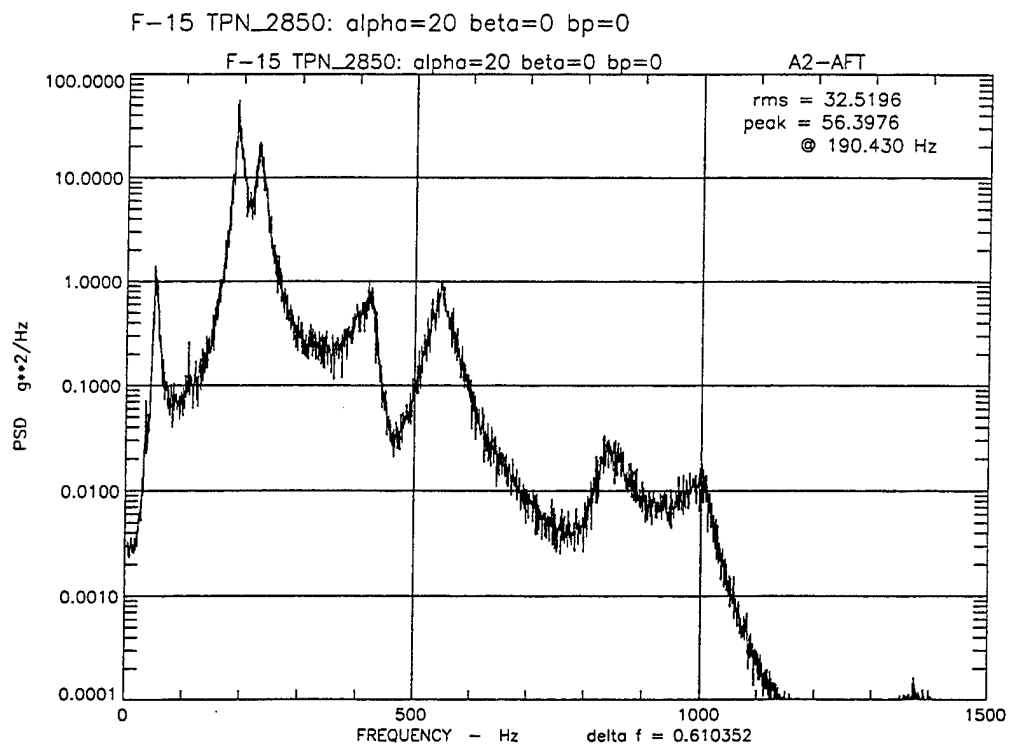
F-15 TPN_2844: alpha=8 beta=0 bp=0

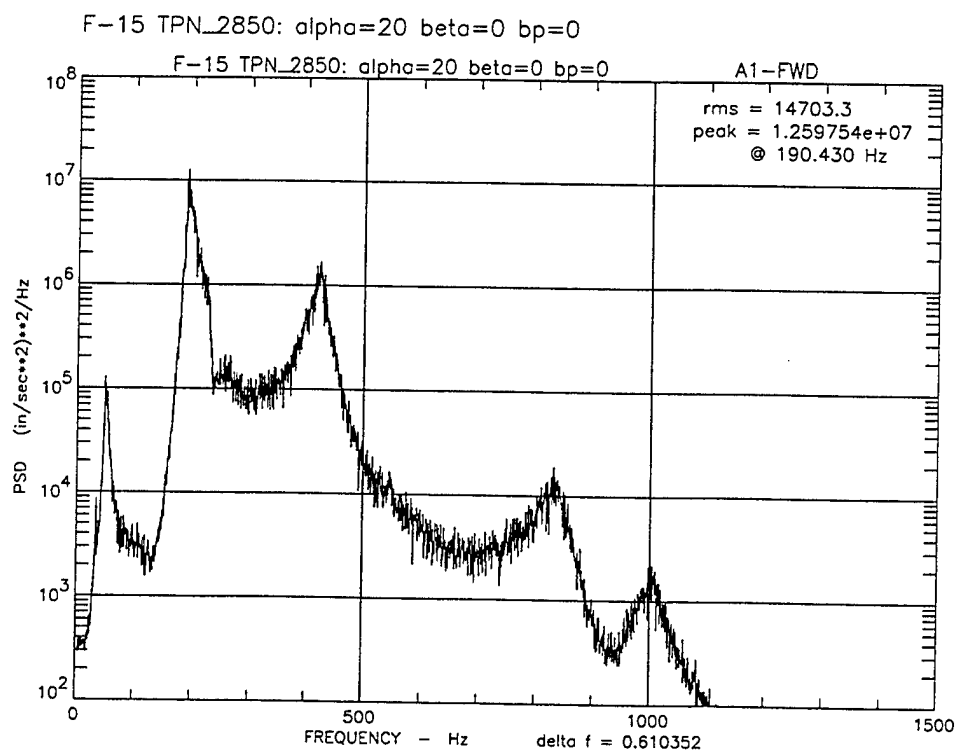
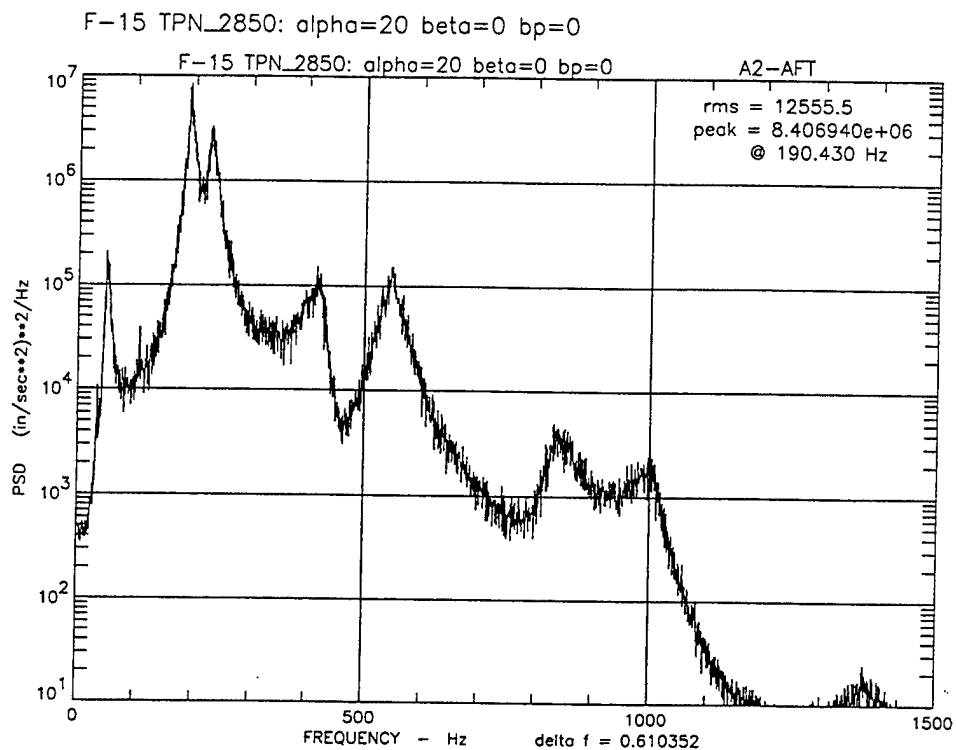


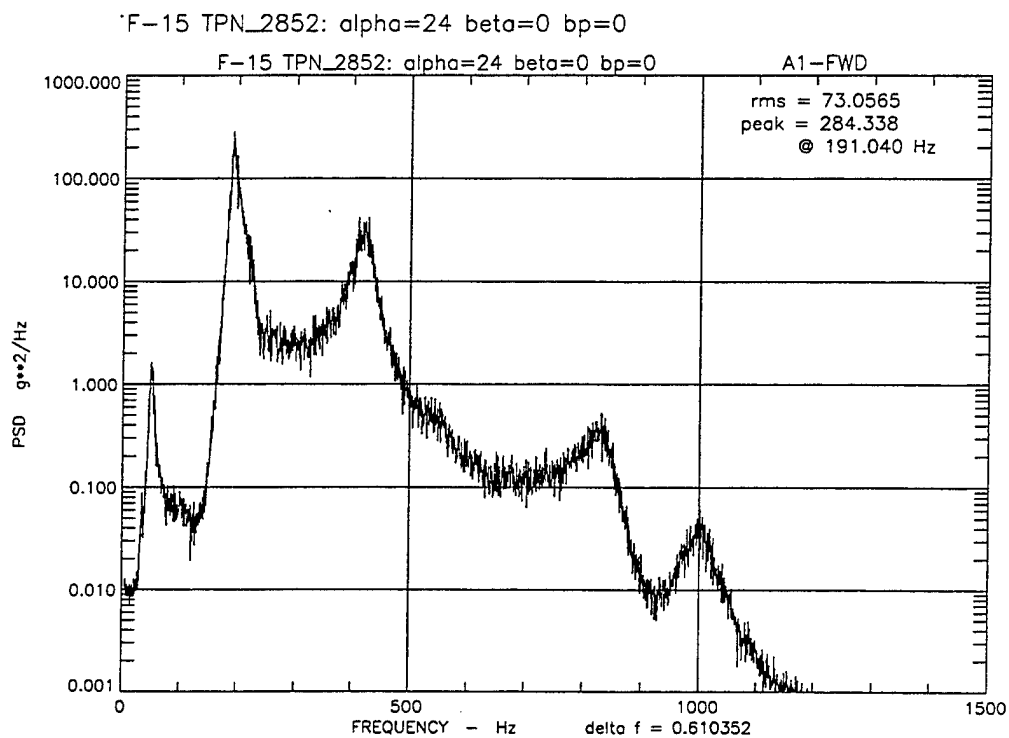
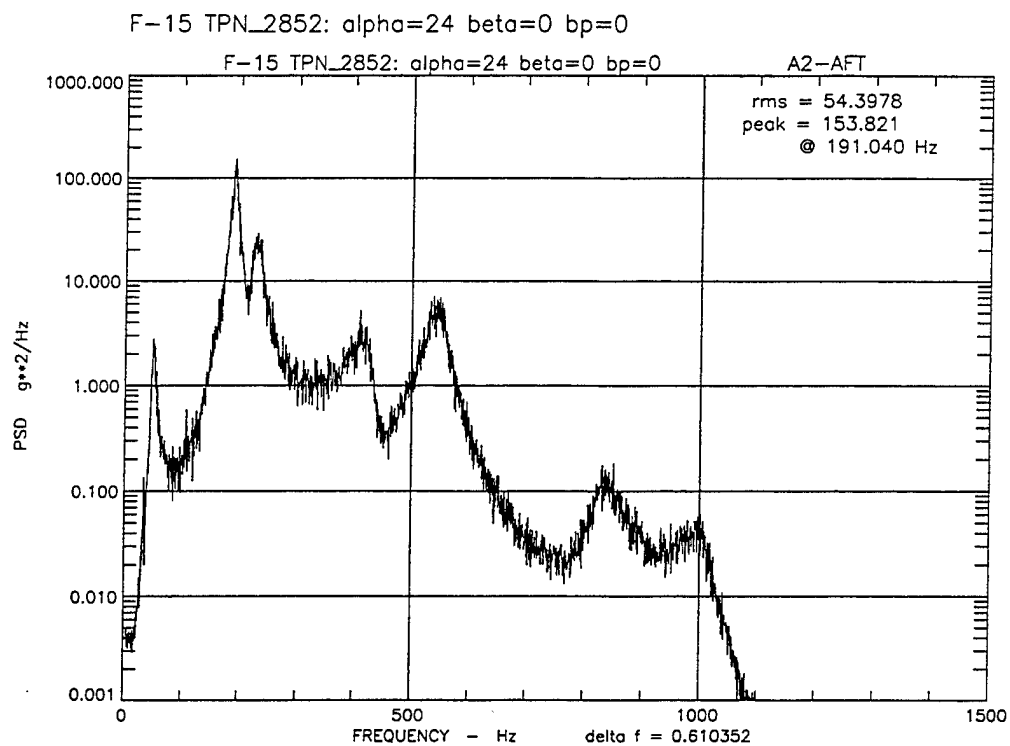
F-15 TPN_2844: alpha=8 beta=0 bp=0



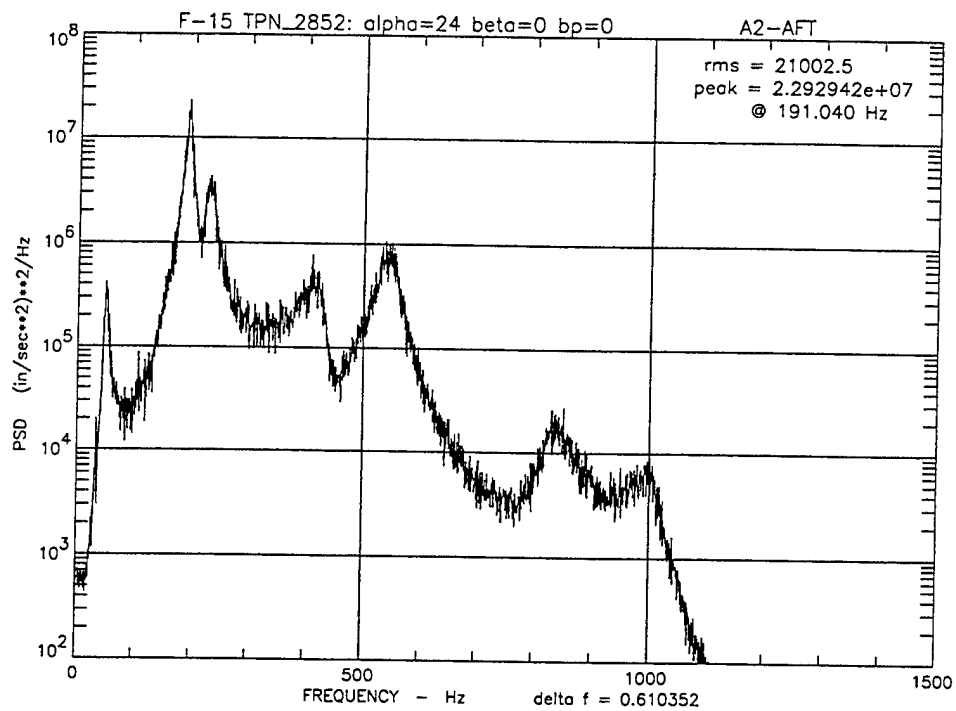




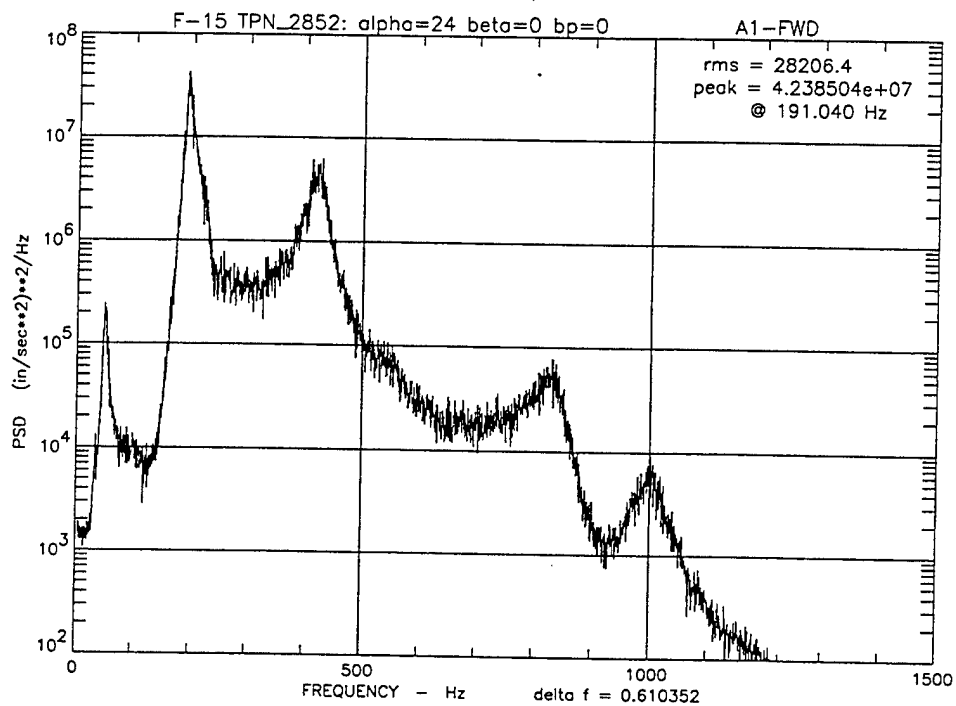


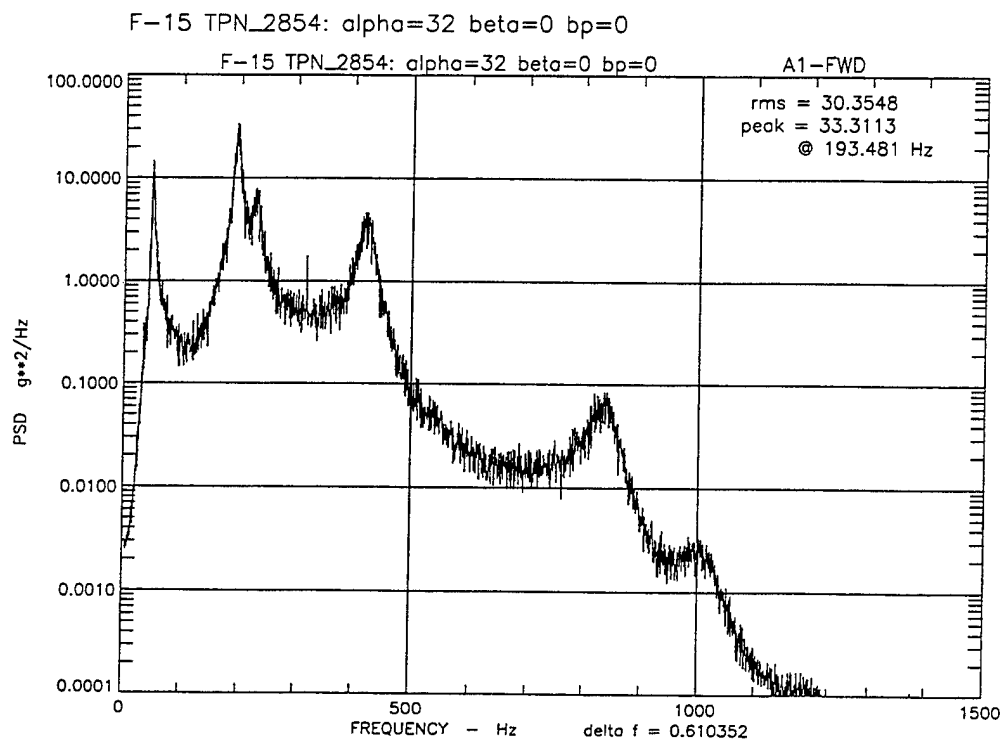
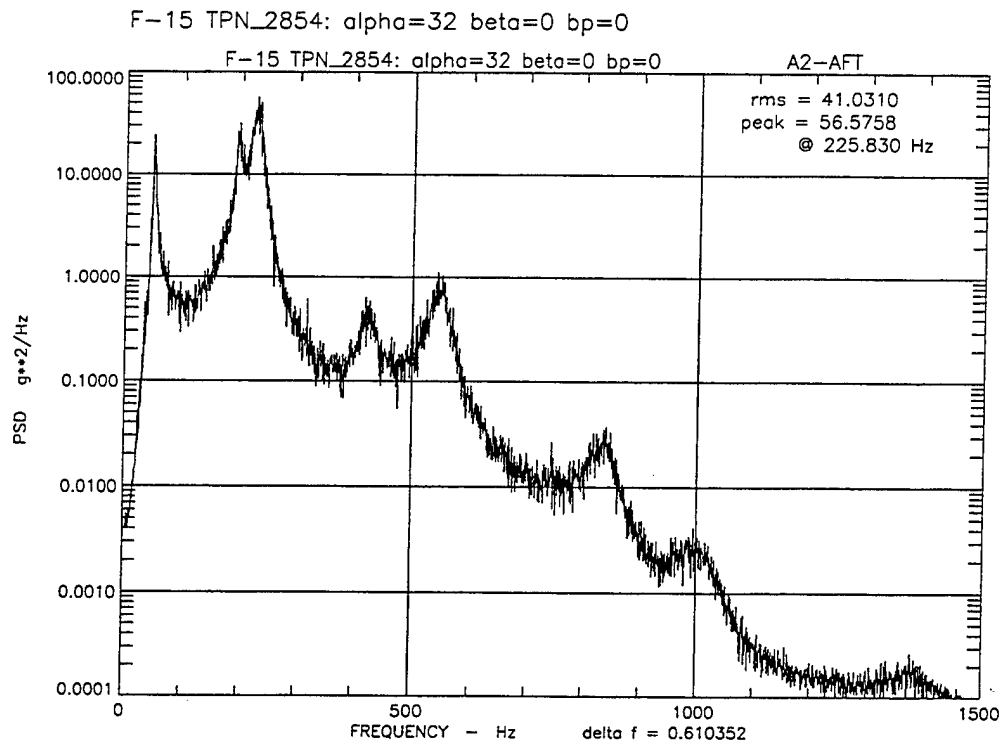


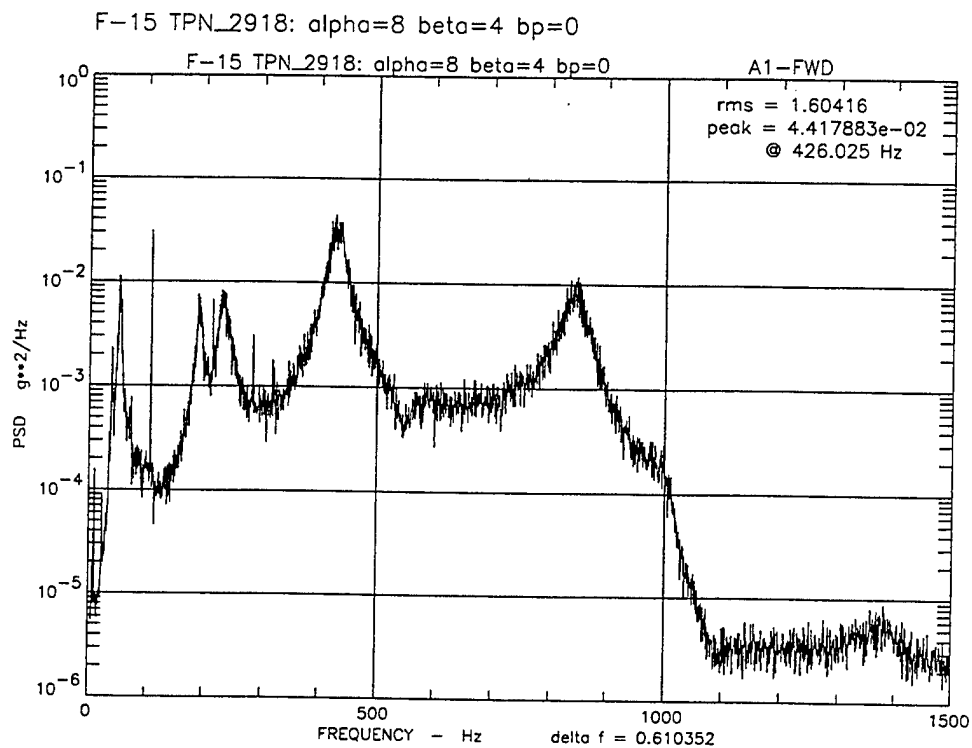
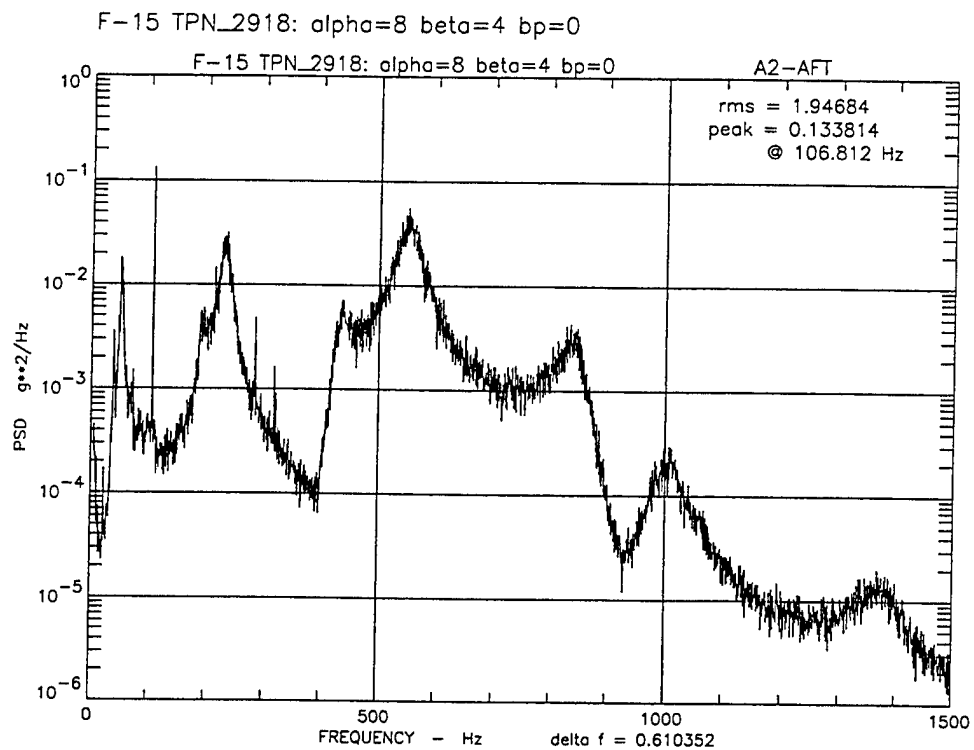
F-15 TPN_2852: alpha=24 beta=0 bp=0



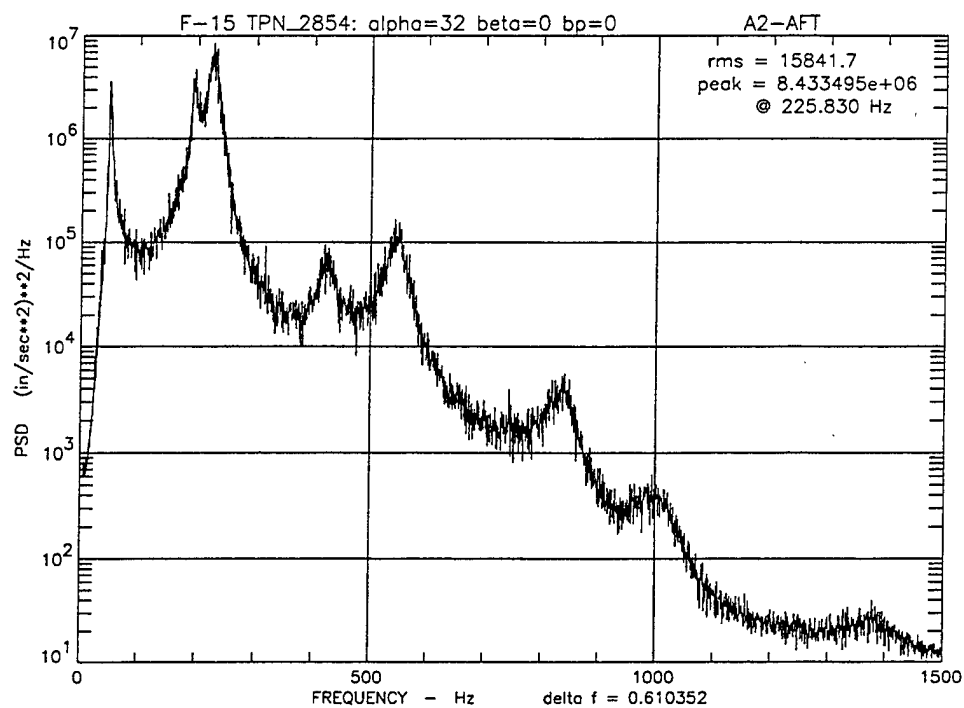
F-15 TPN_2852: alpha=24 beta=0 bp=0



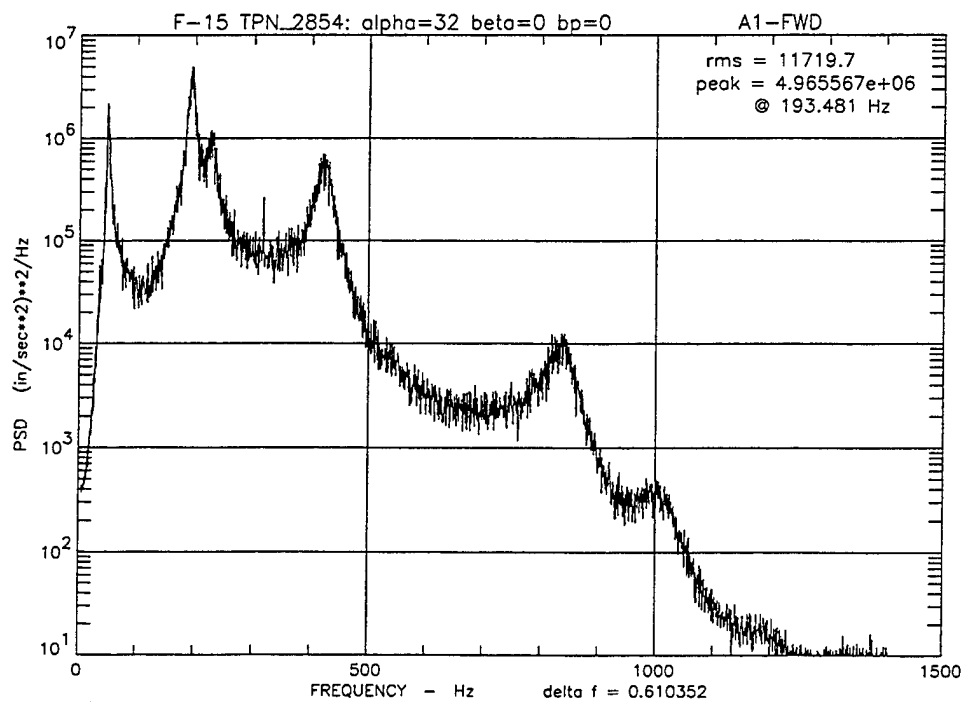


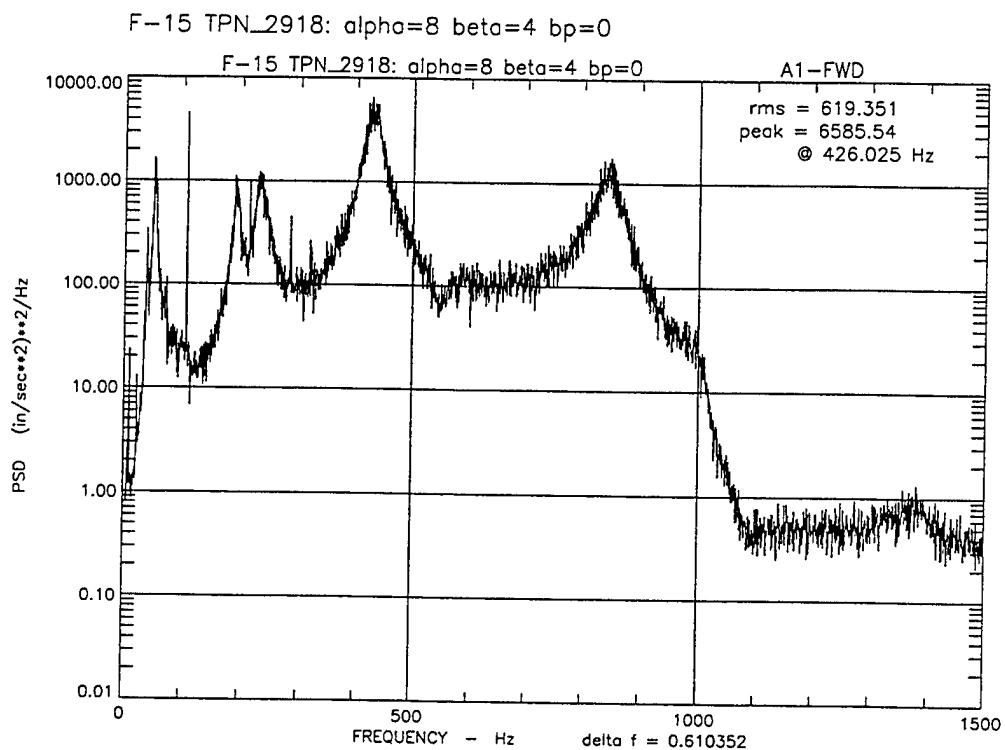
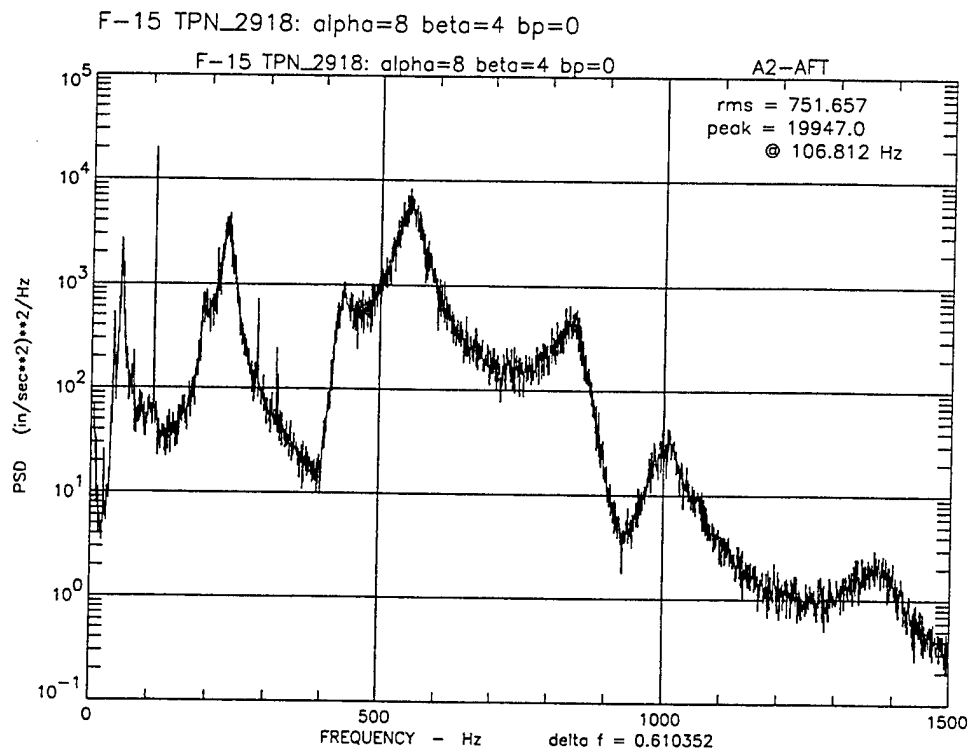


F-15 TPN_2854: alpha=32 beta=0 bp=0

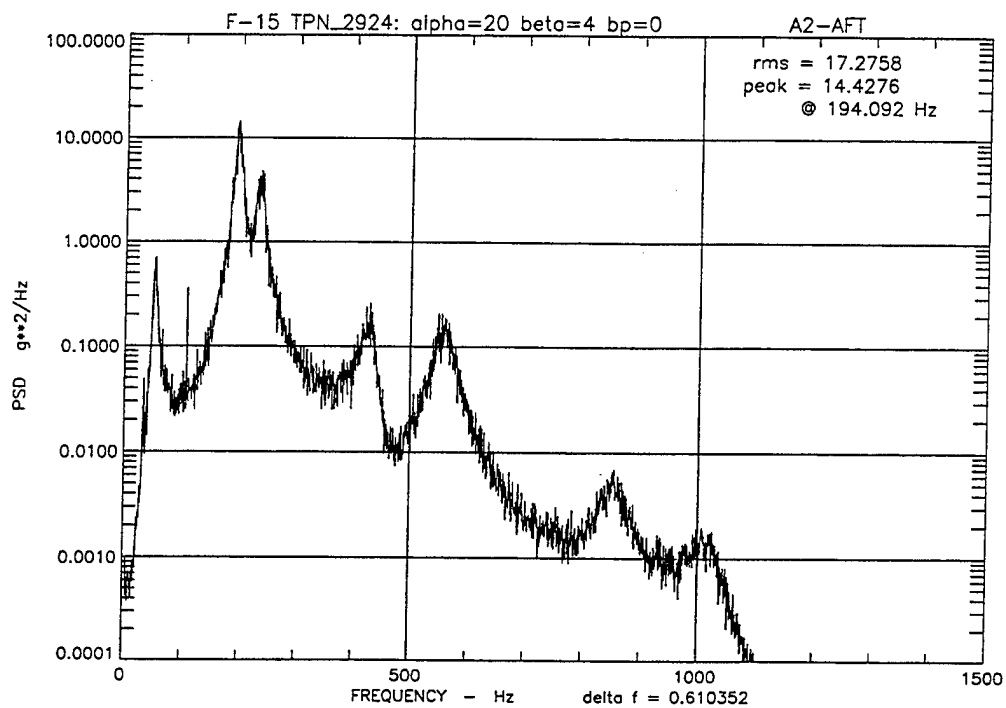


F-15 TPN_2854: alpha=32 beta=0 bp=0

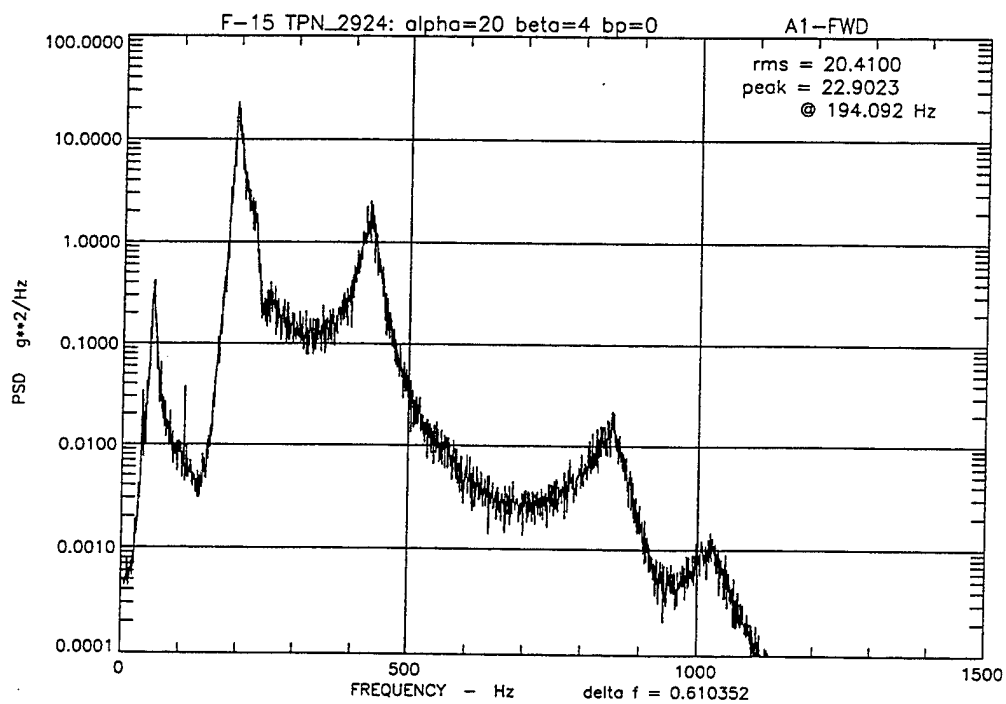




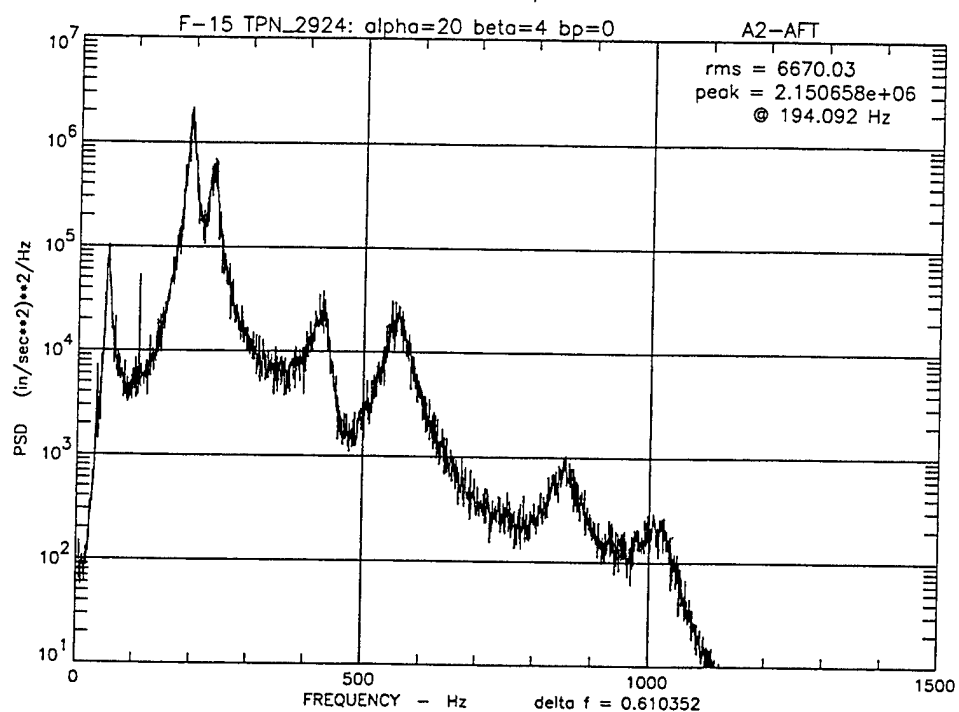
F-15 TPN_2924: alpha=20 beta=4 bp=0



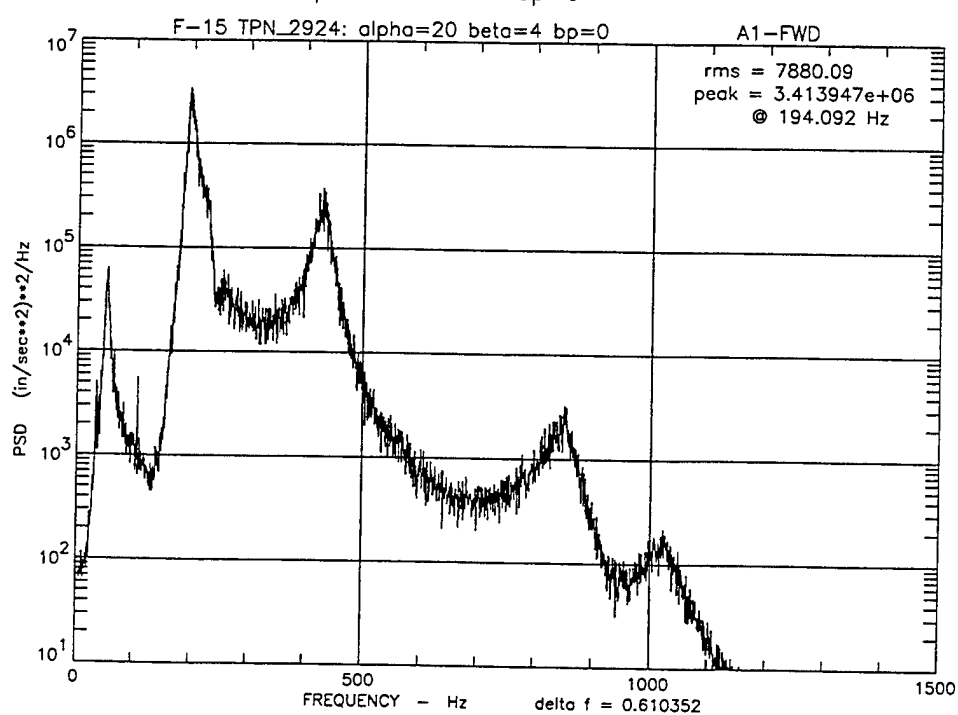
F-15 TPN_2924: alpha=20 beta=4 bp=0

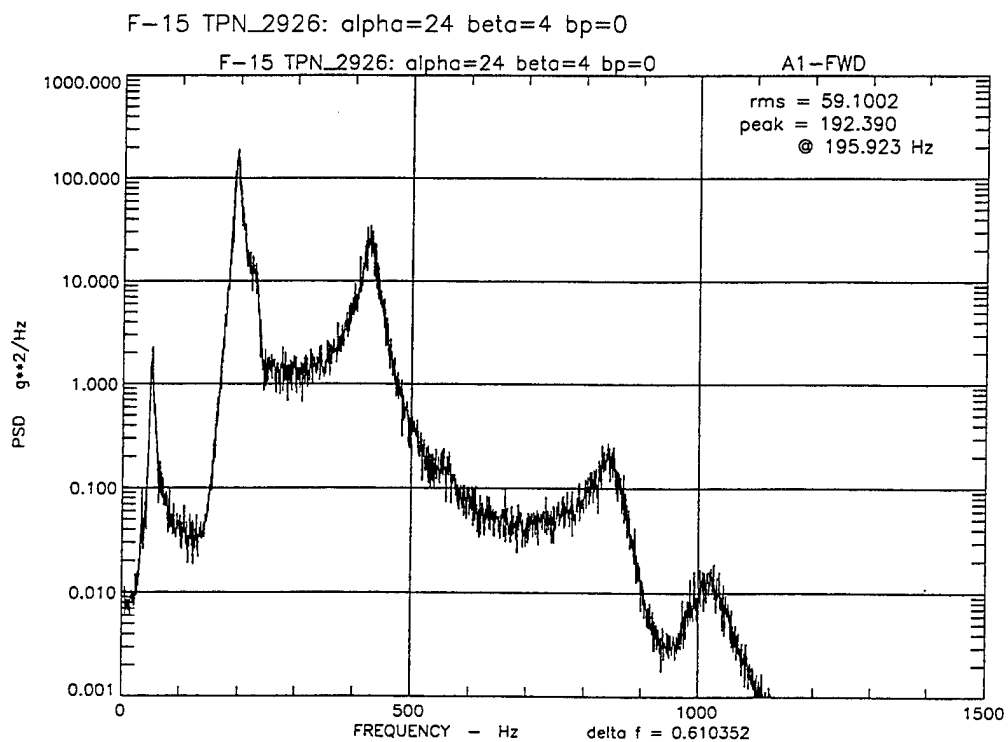
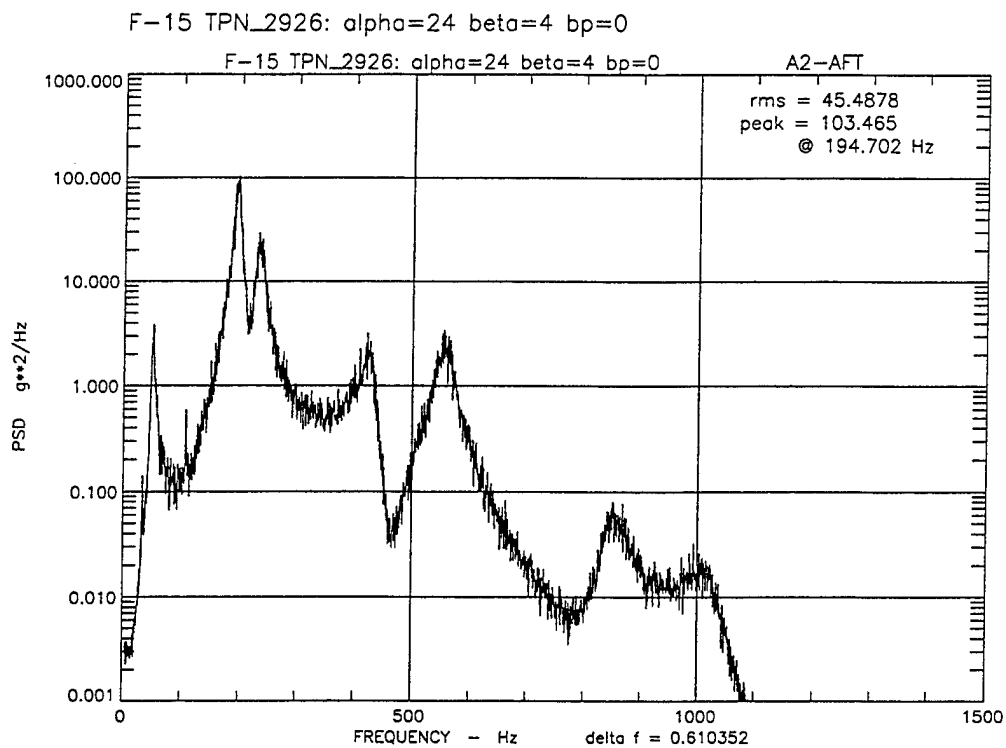


F-15 TPN_2924: alpha=20 beta=4 bp=0

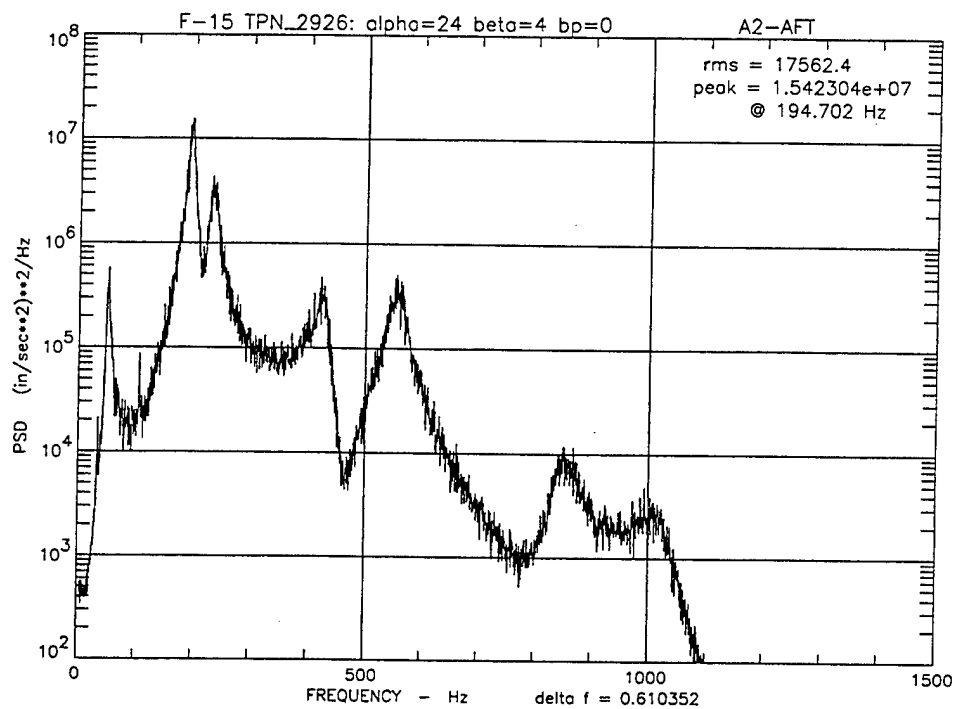


F-15 TPN_2924: alpha=20 beta=4 bp=0

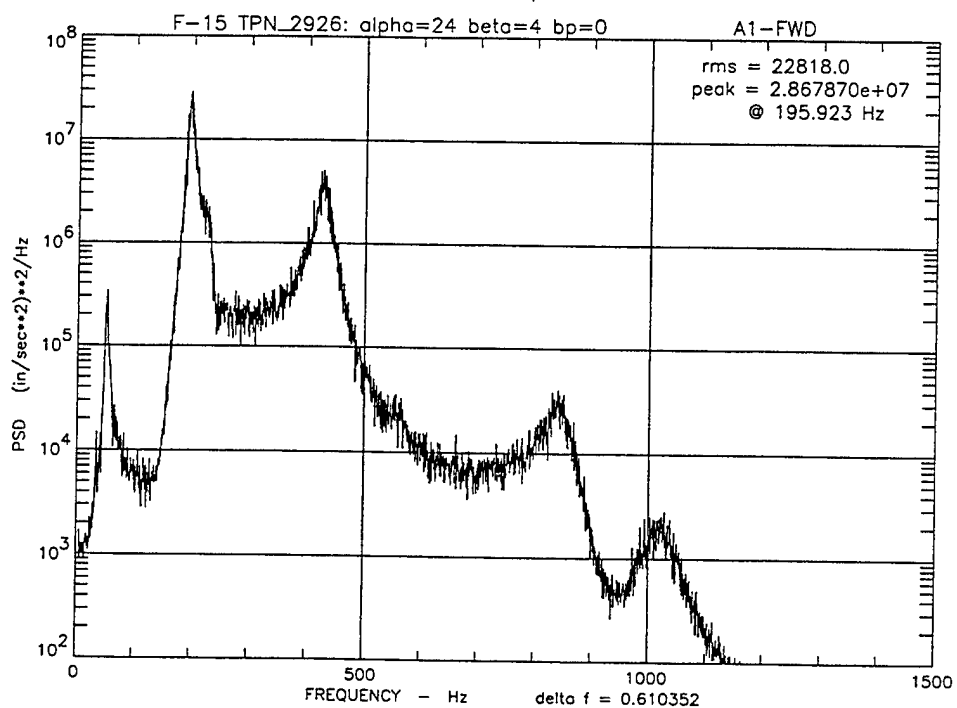




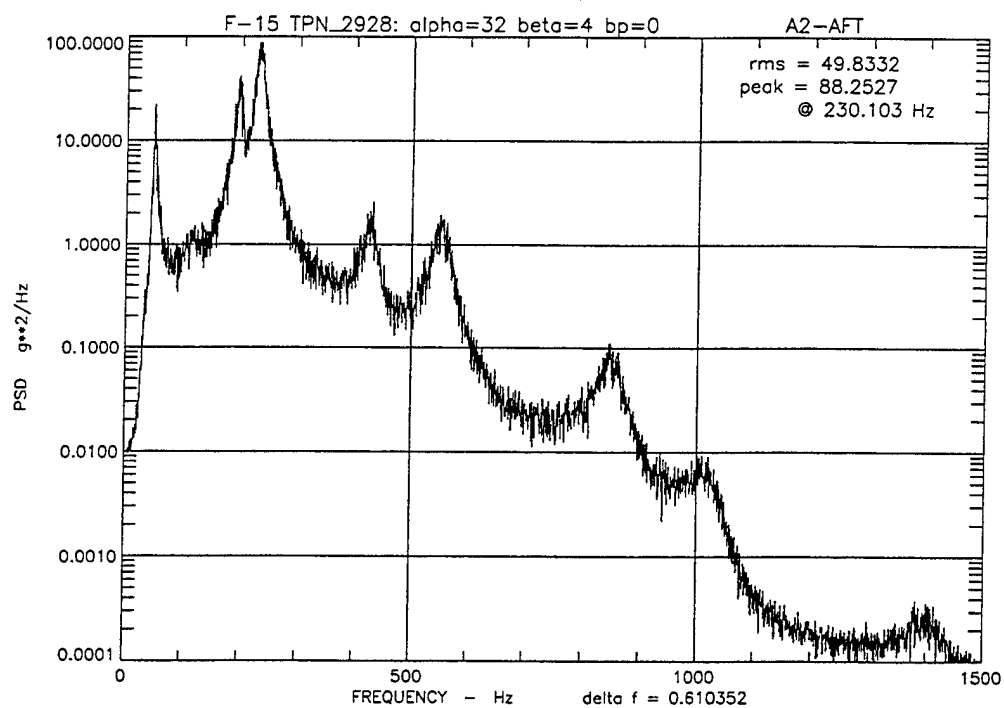
F-15 TPN_2926: alpha=24 beta=4 bp=0



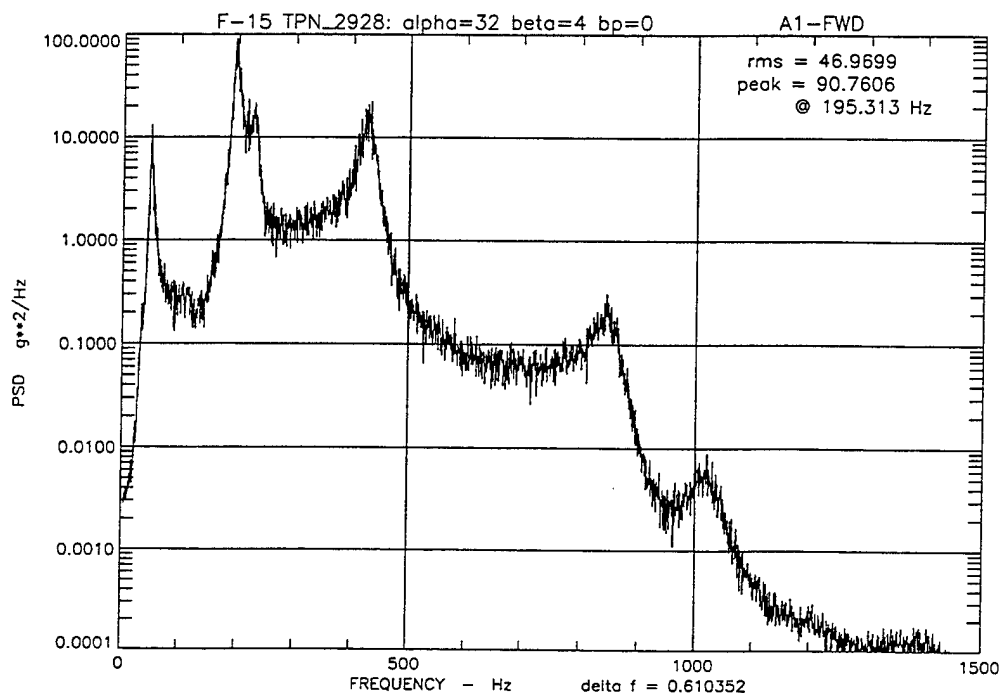
F-15 TPN_2926: alpha=24 beta=4 bp=0

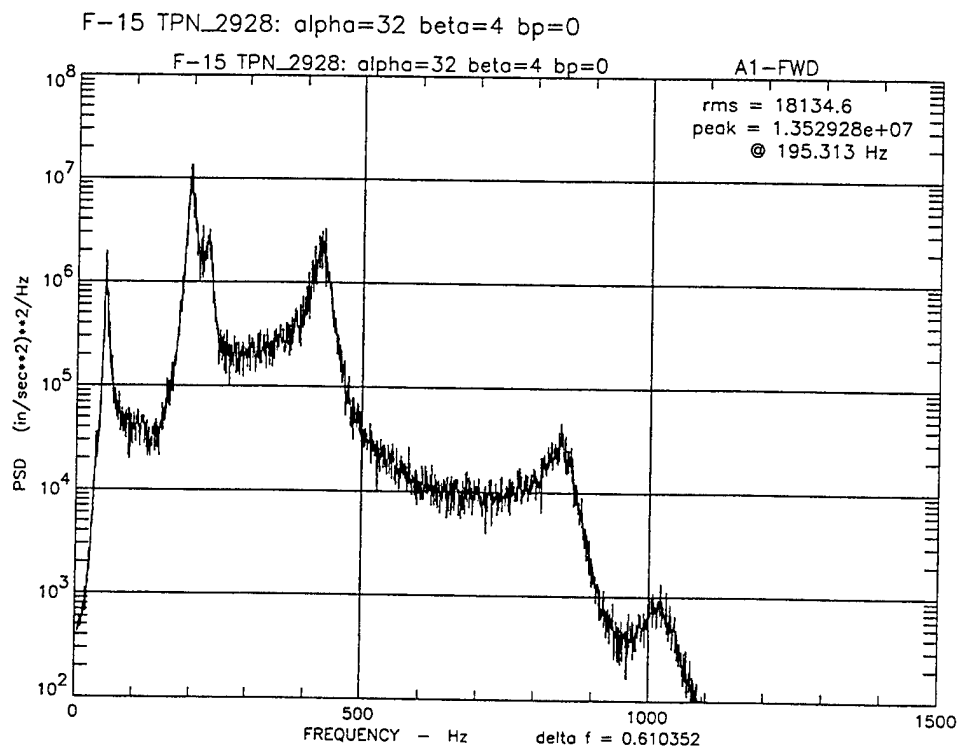
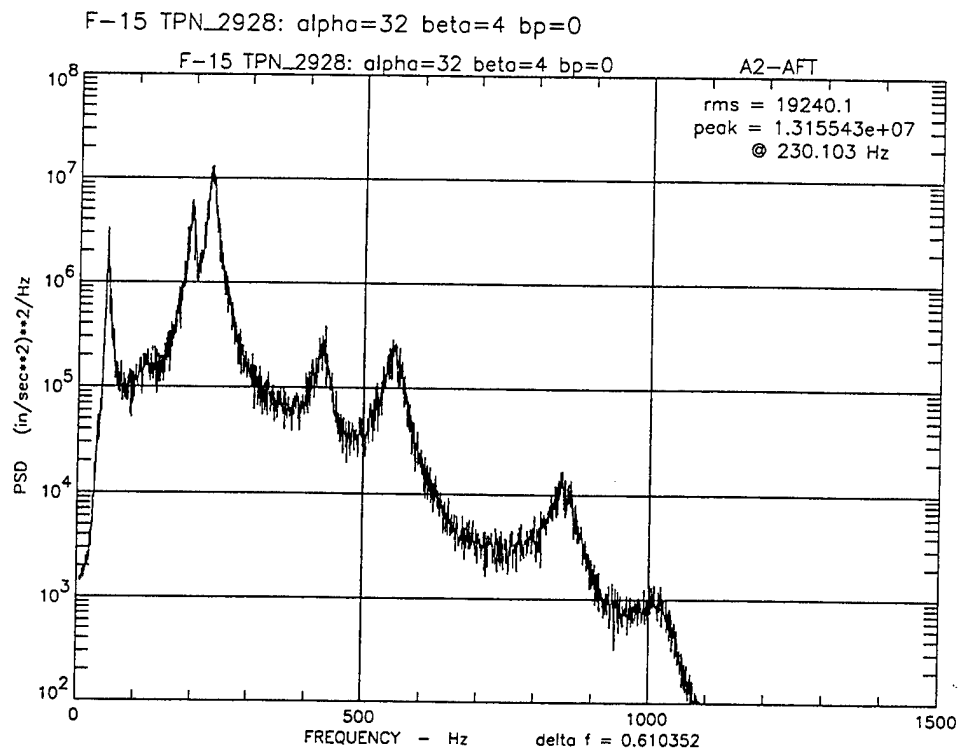


F-15 TPN_2928: alpha=32 beta=4 bp=0

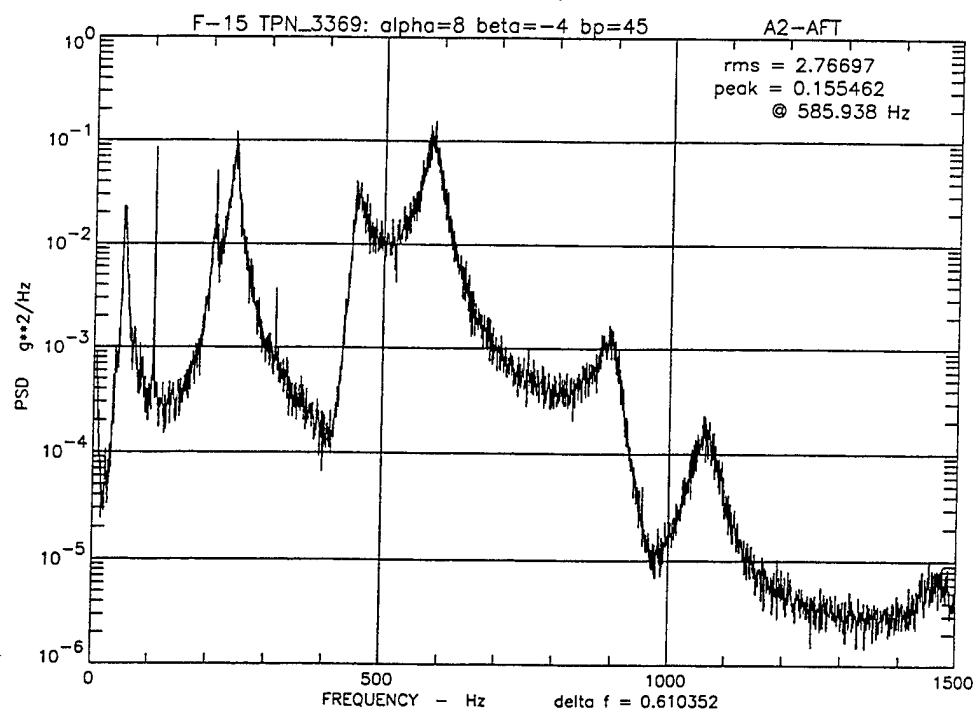


F-15 TPN_2928: alpha=32 beta=4 bp=0

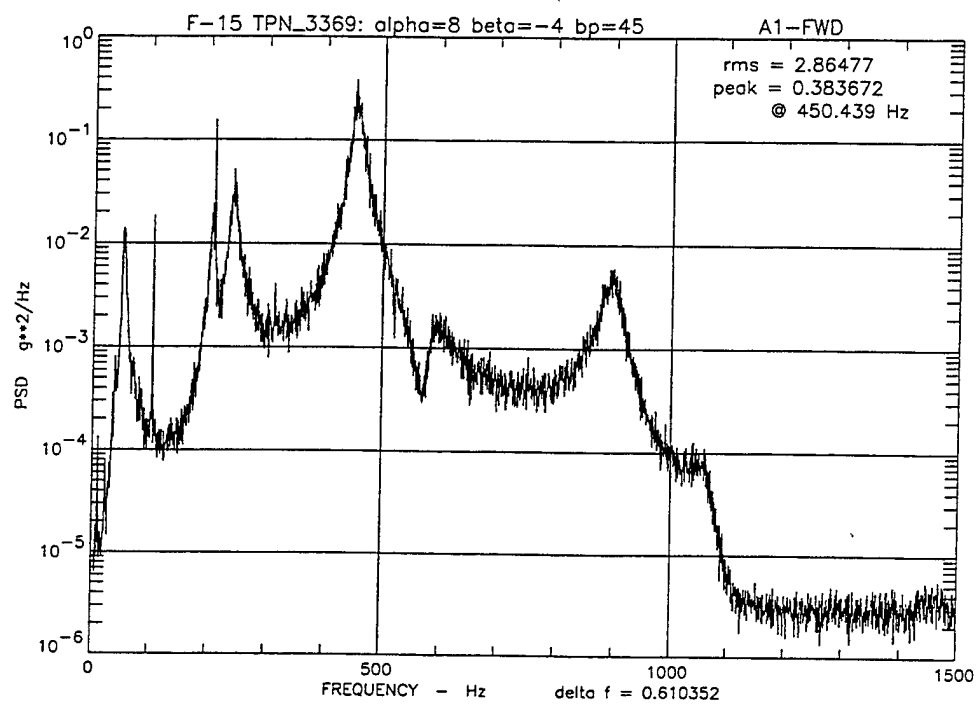




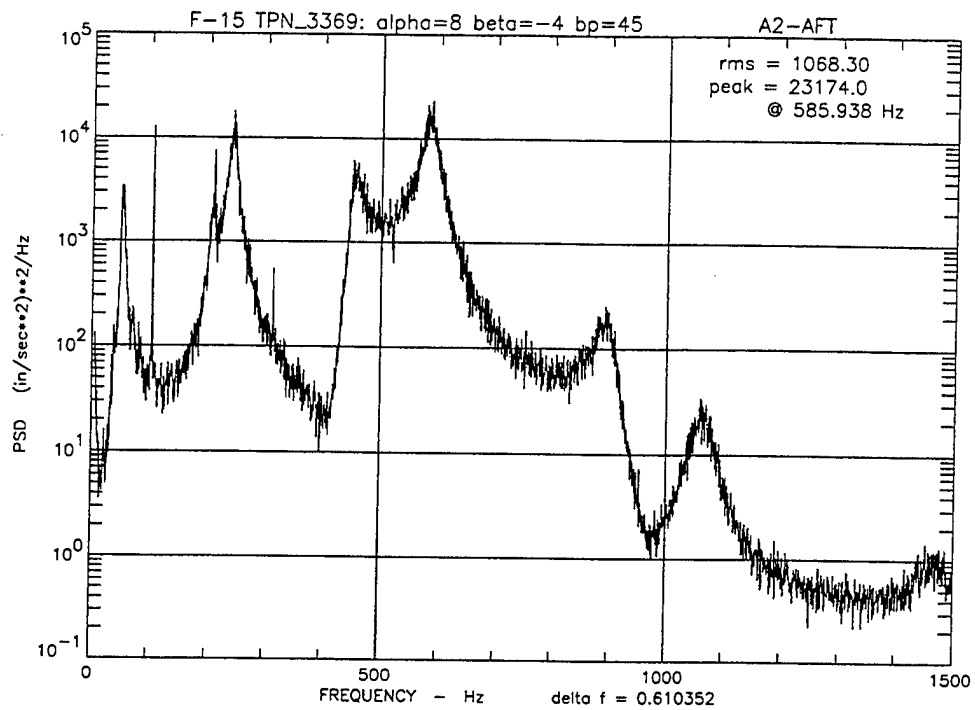
F-15 TPN_3369: alpha=8 beta=-4 bp=45



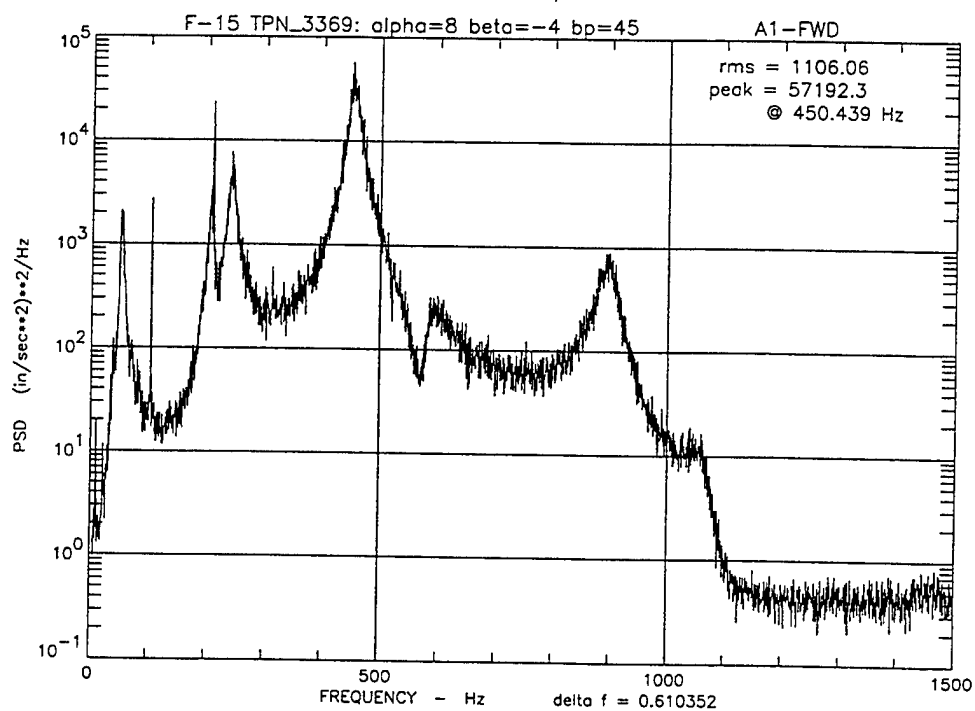
F-15 TPN_3369: alpha=8 beta=-4 bp=45



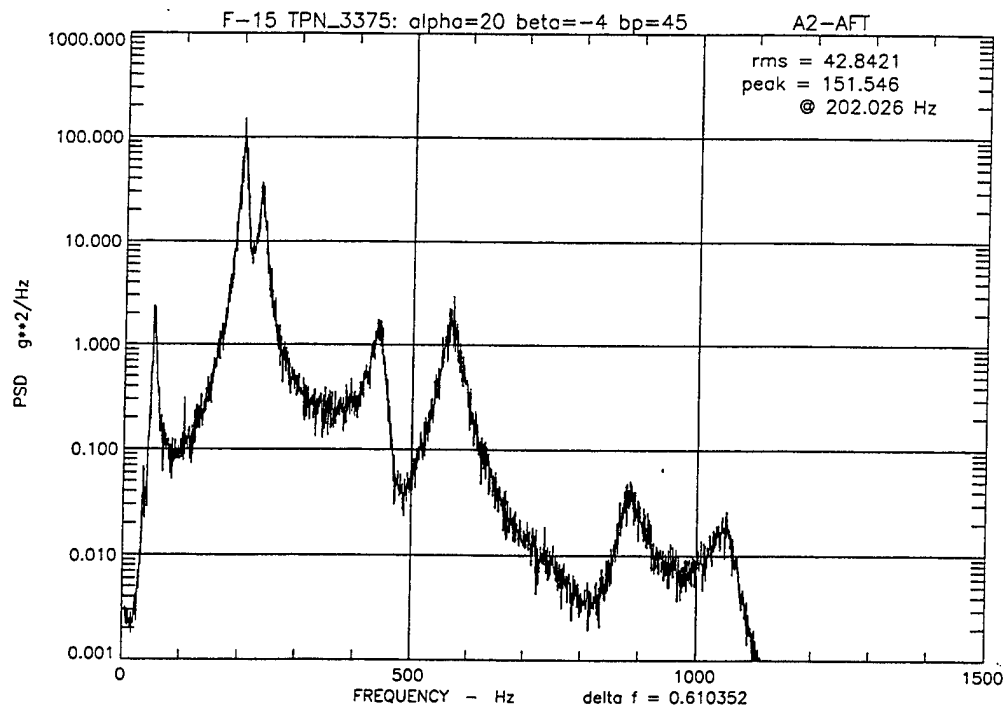
F-15 TPN_3369: alpha=8 beta=-4 bp=45



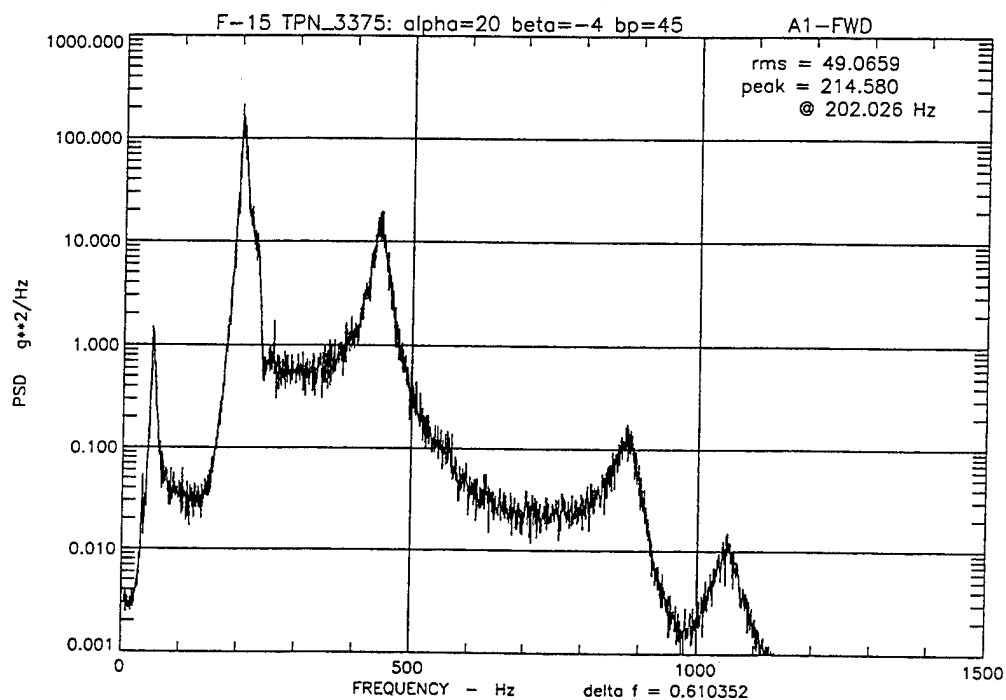
F-15 TPN_3369: alpha=8 beta=-4 bp=45



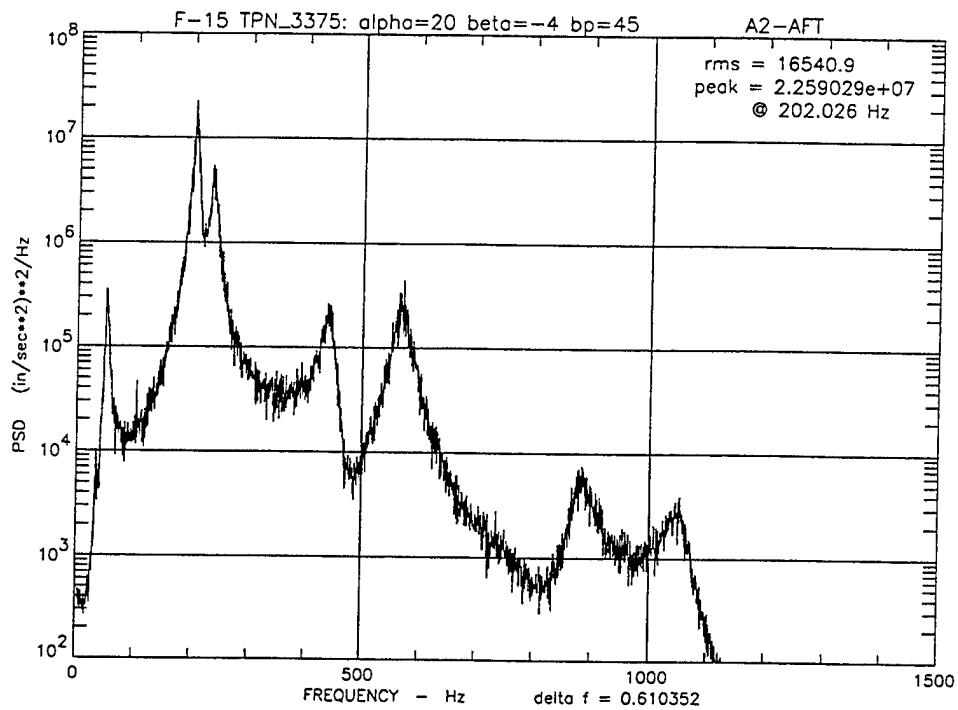
F-15 TPN_3375: alpha=20 beta=-4 bp=45



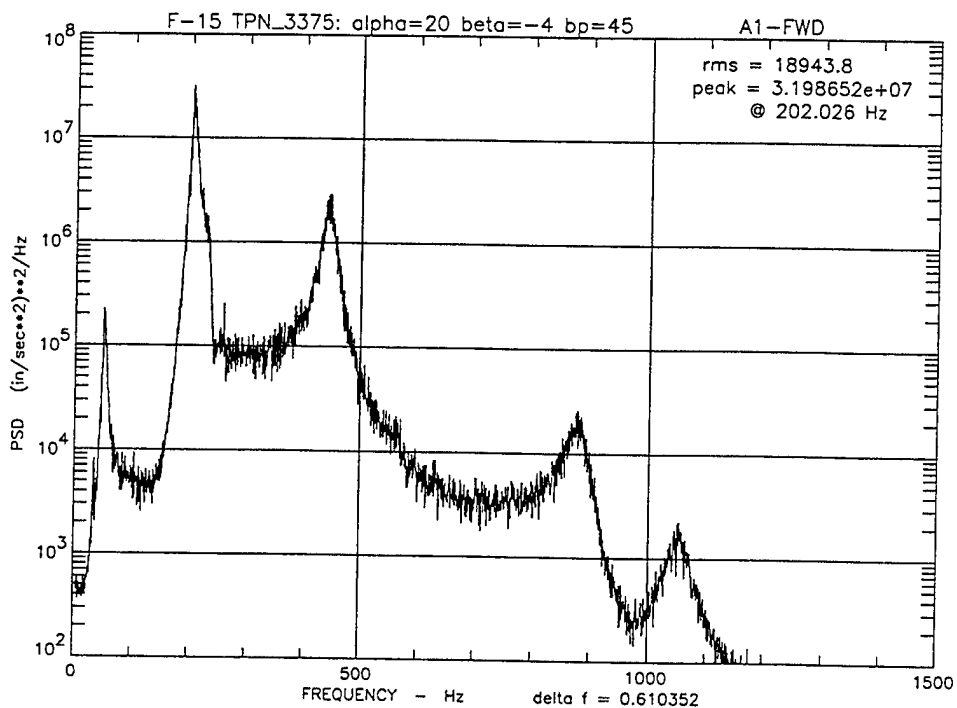
F-15 TPN_3375: alpha=20 beta=-4 bp=45

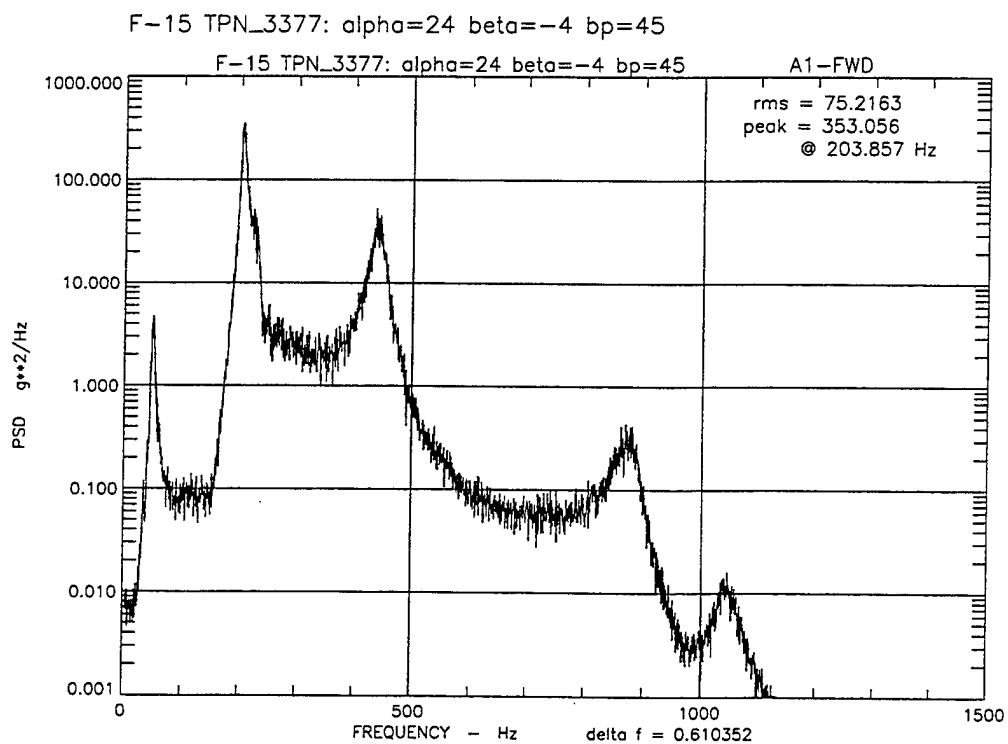
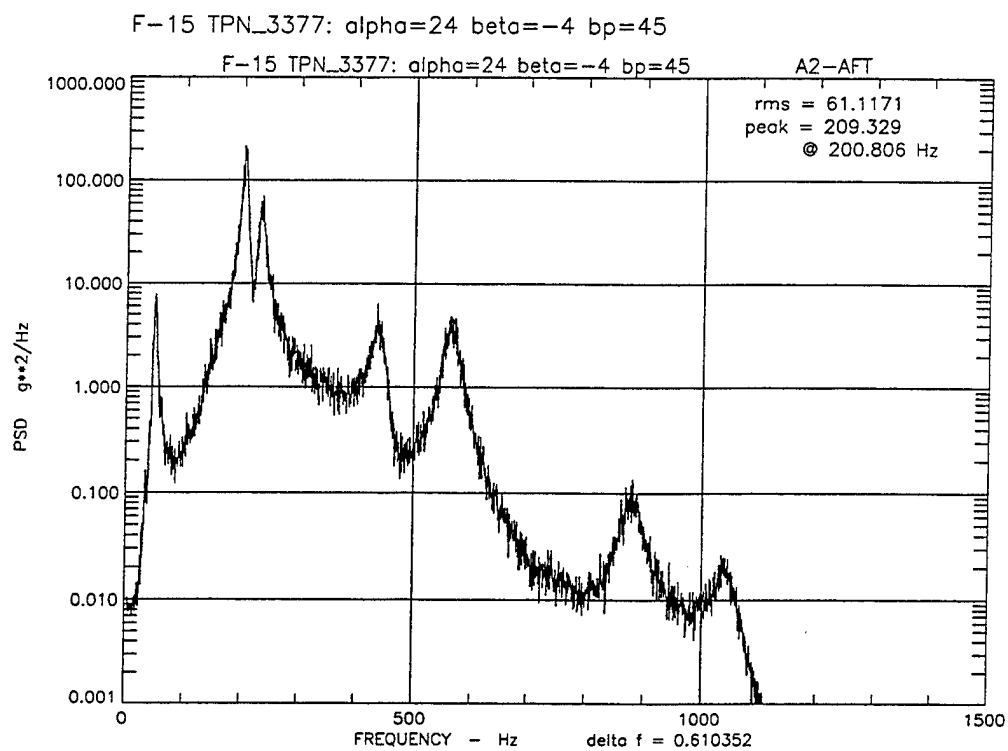


F-15 TPN_3375: alpha=20 beta=-4 bp=45

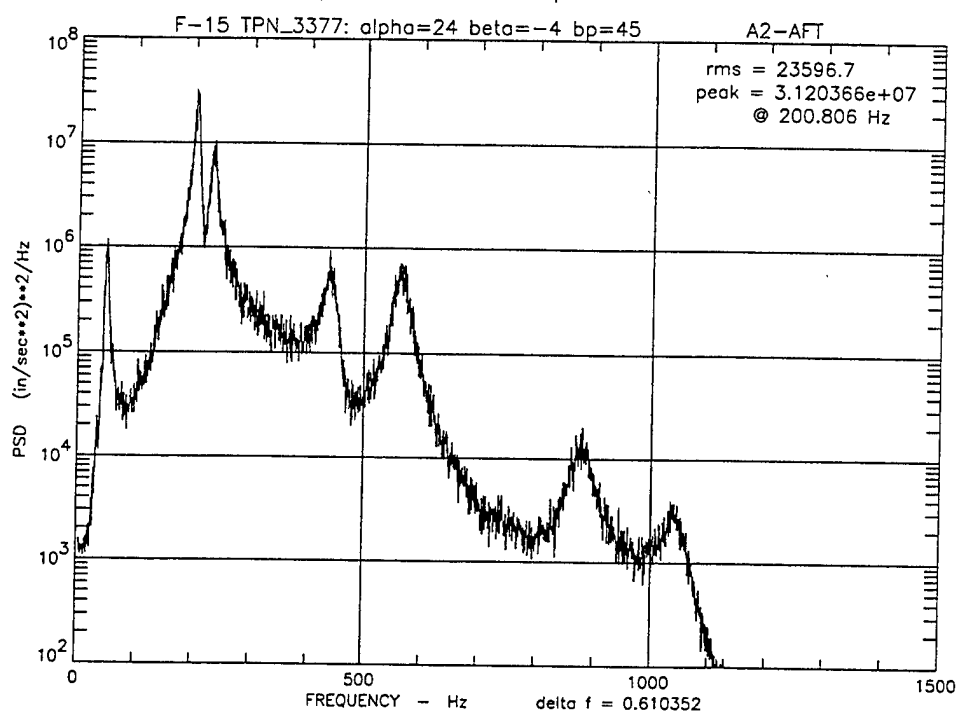


F-15 TPN_3375: alpha=20 beta=-4 bp=45

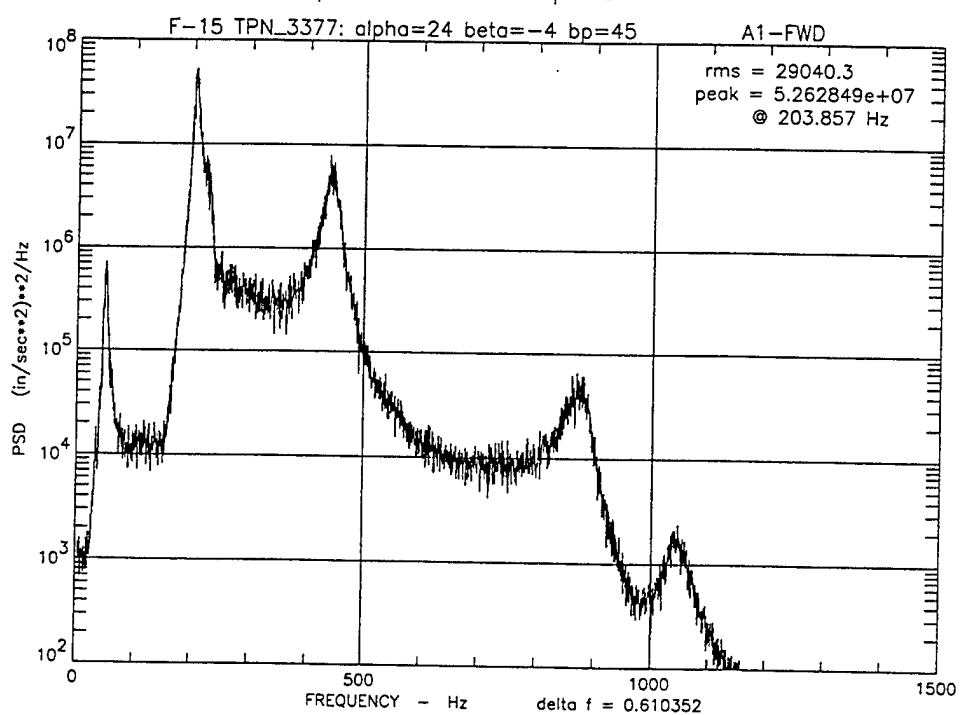


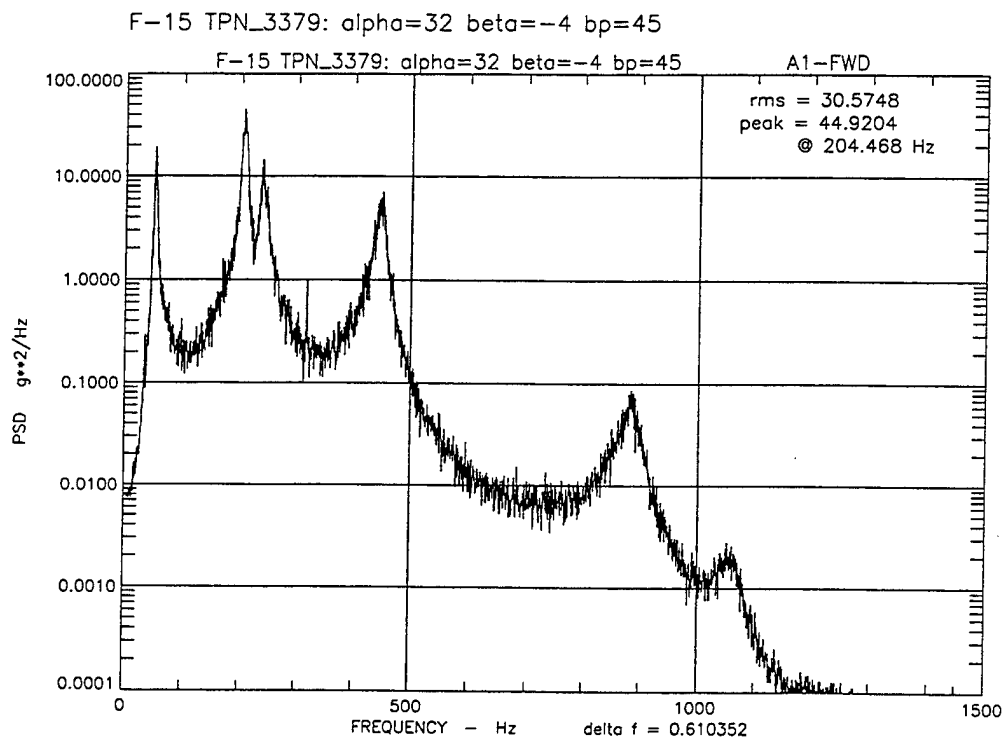
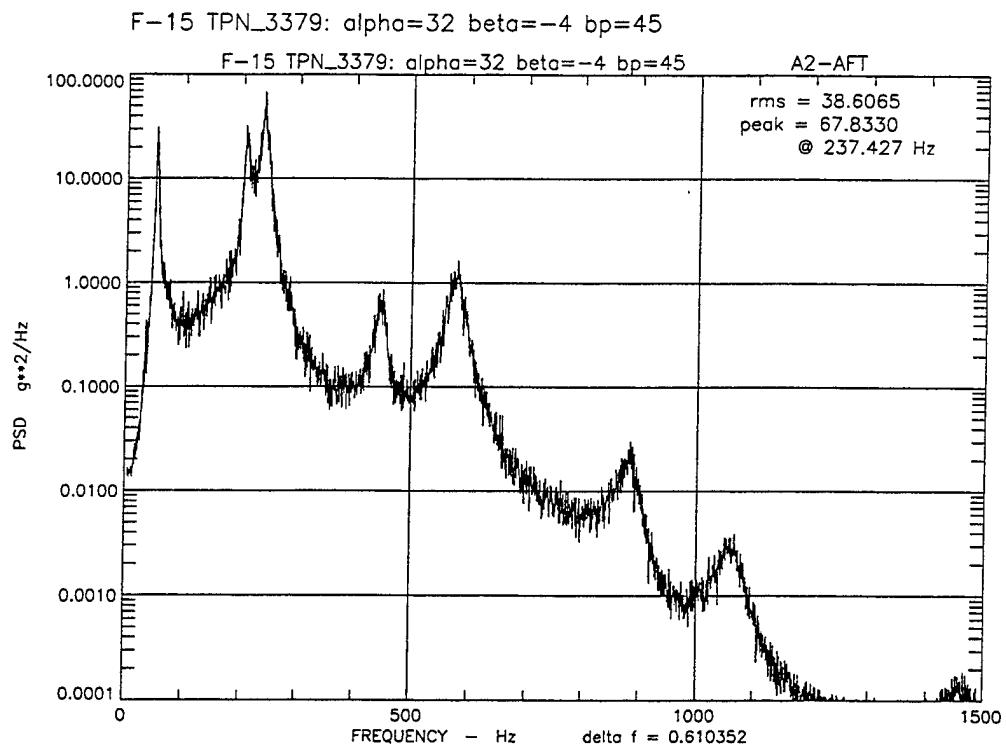


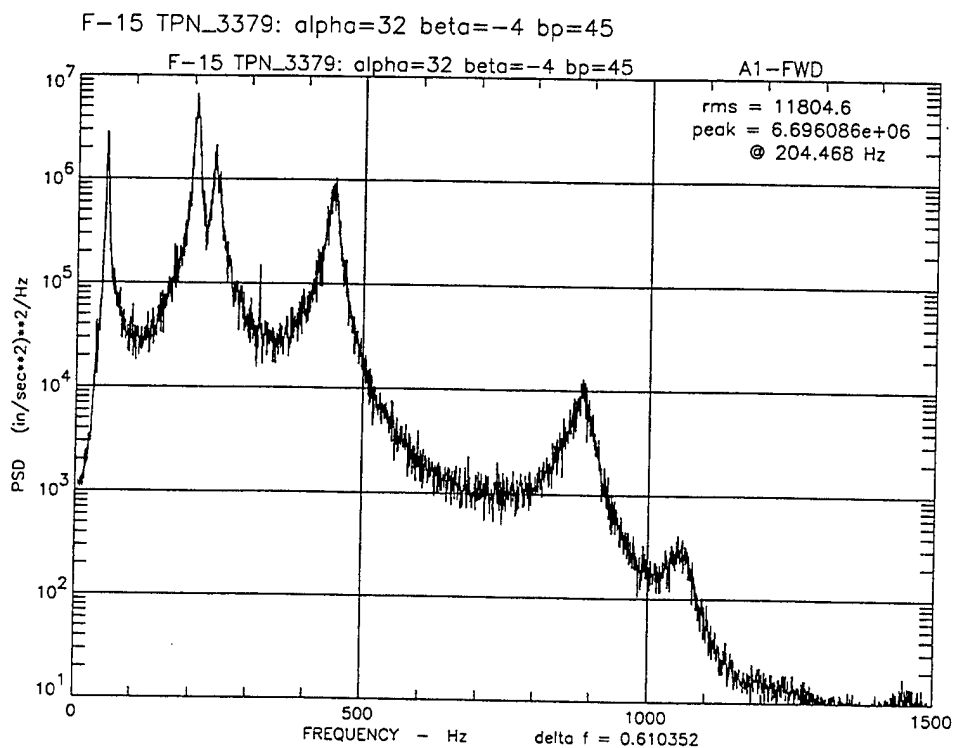
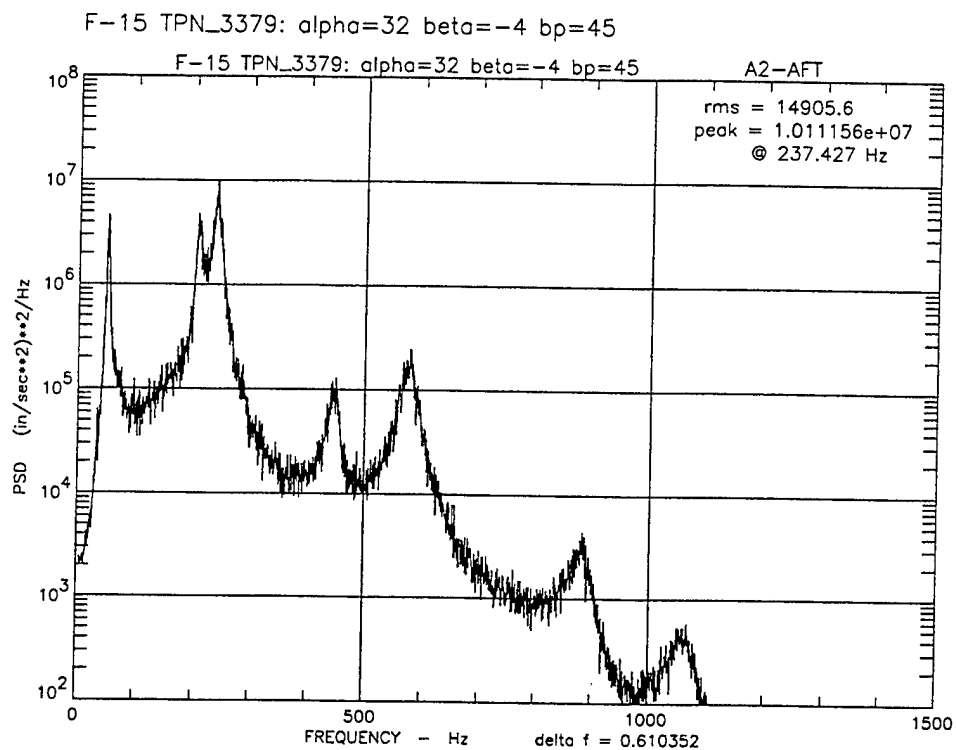
F-15 TPN_3377: alpha=24 beta=-4 bp=45

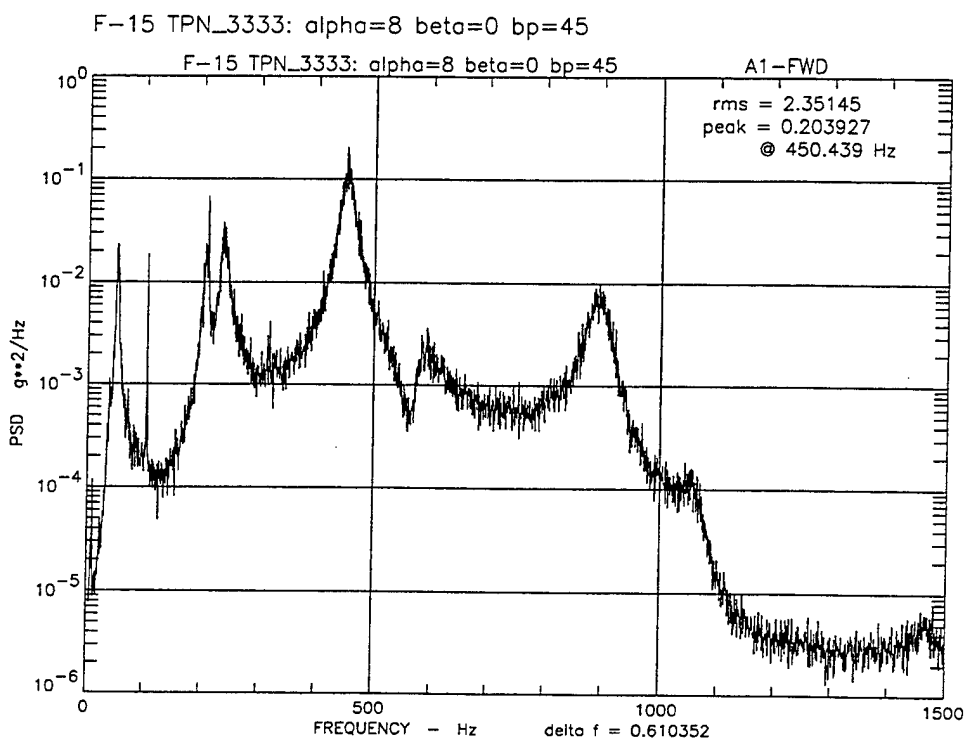
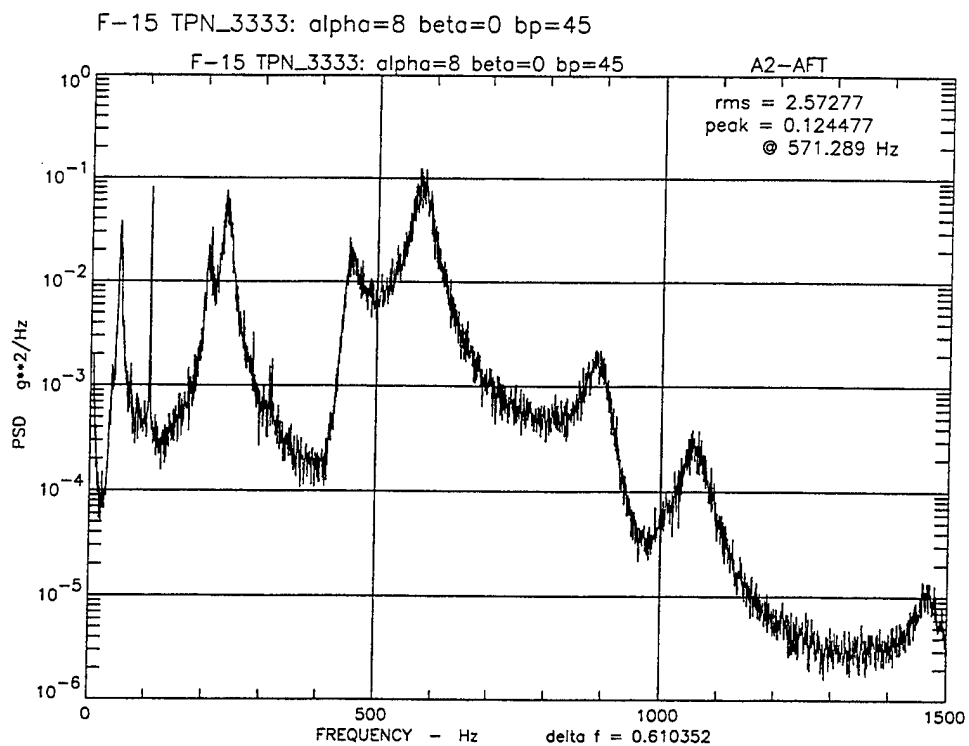


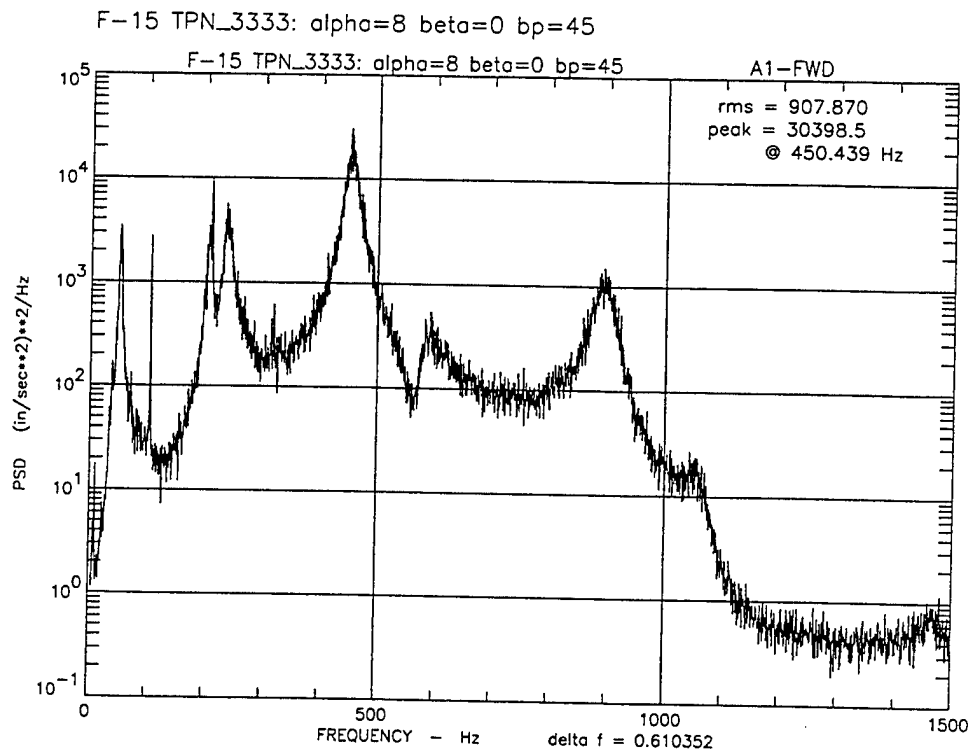
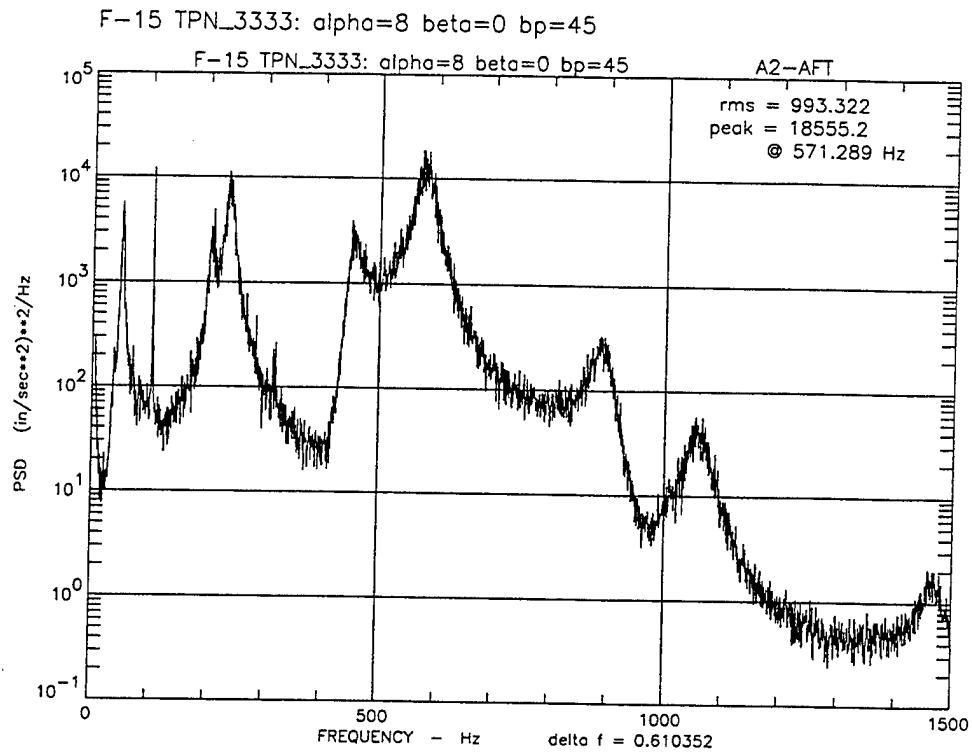
F-15 TPN_3377: alpha=24 beta=-4 bp=45



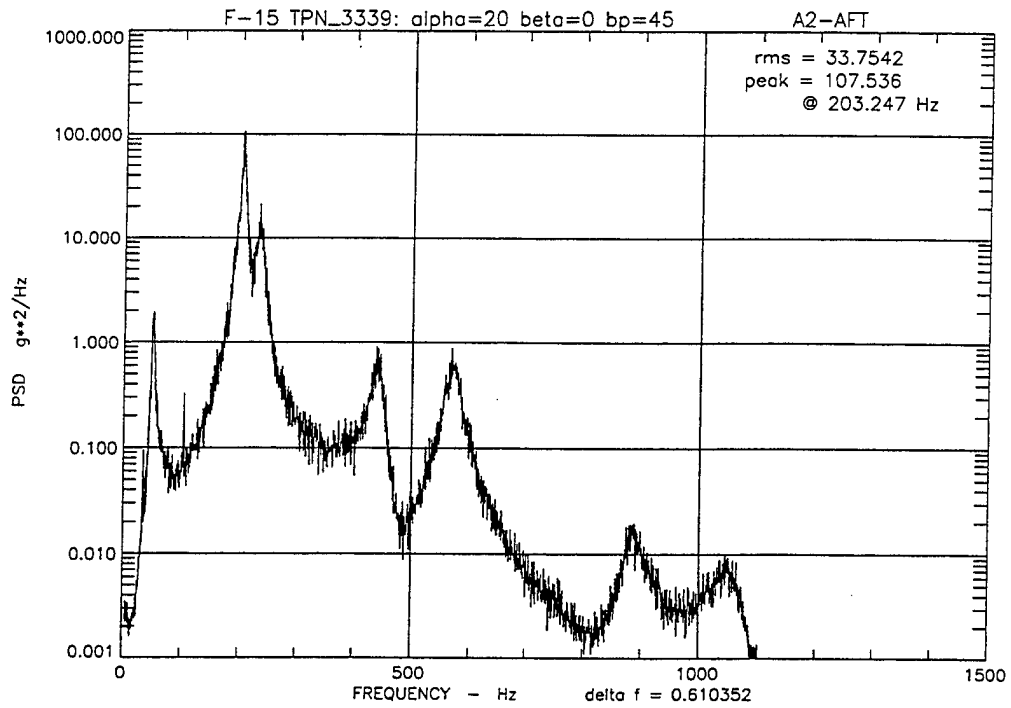




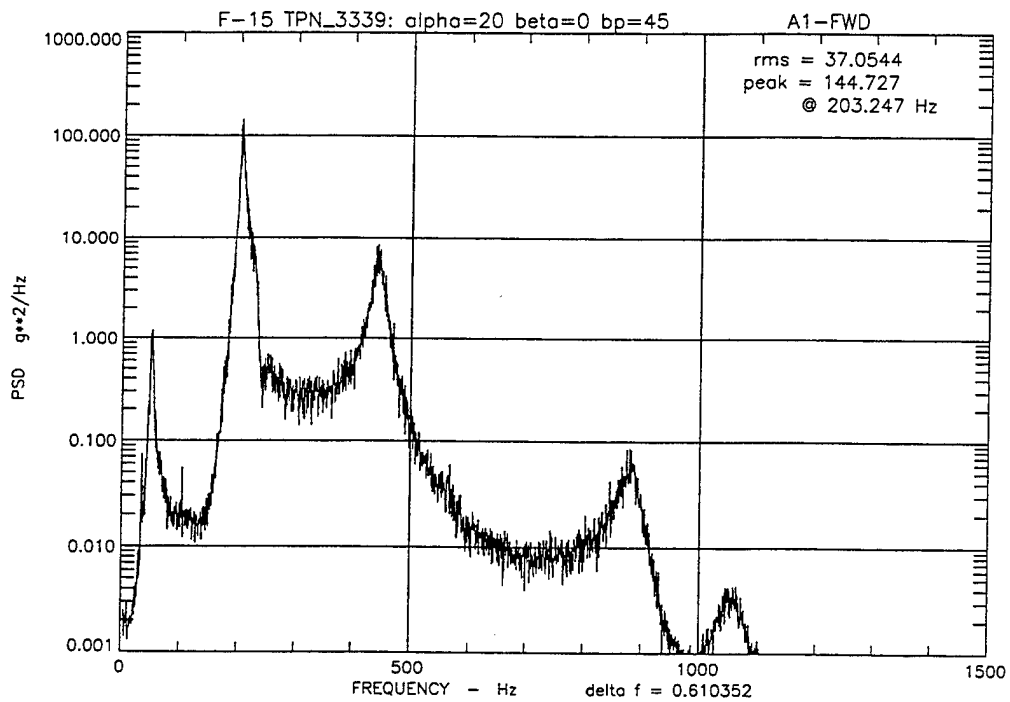


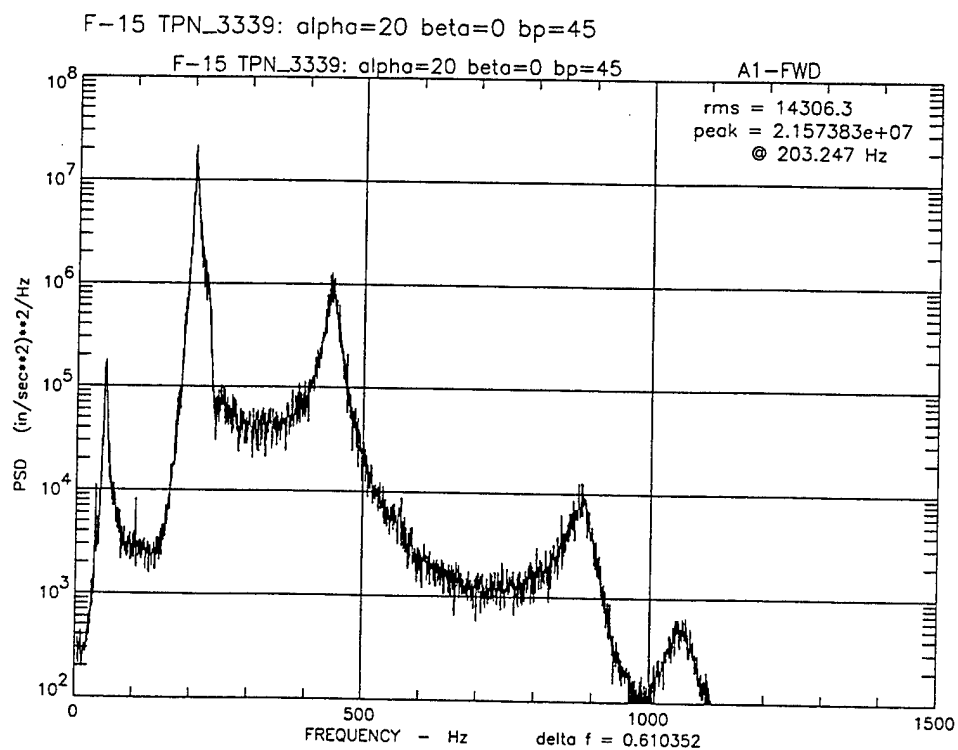
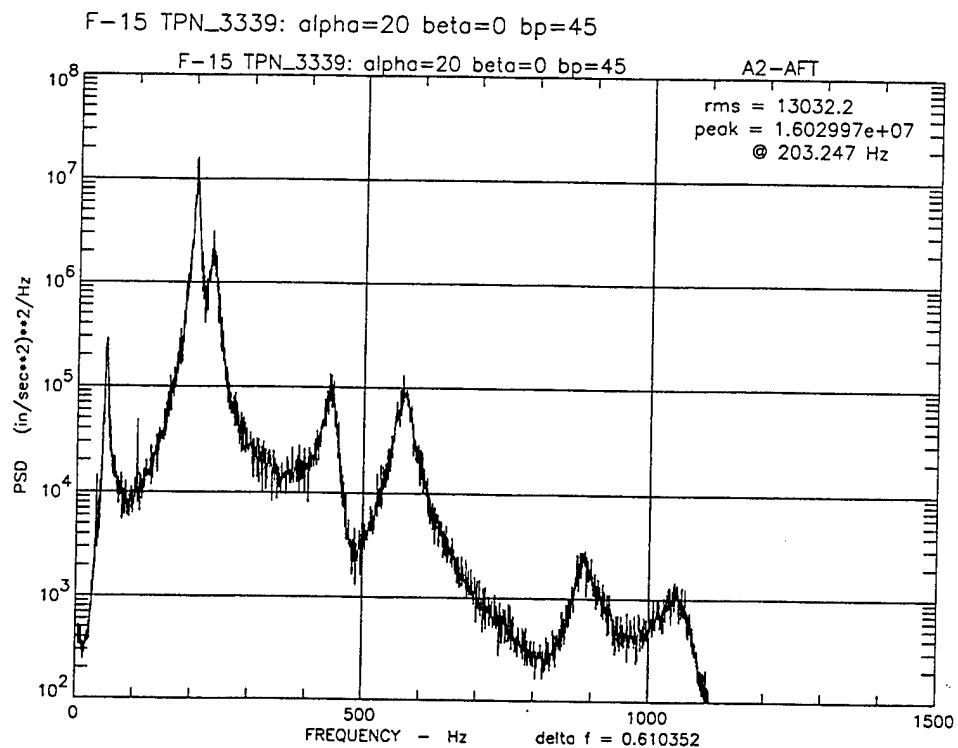


F-15 TPN_3339: alpha=20 beta=0 bp=45

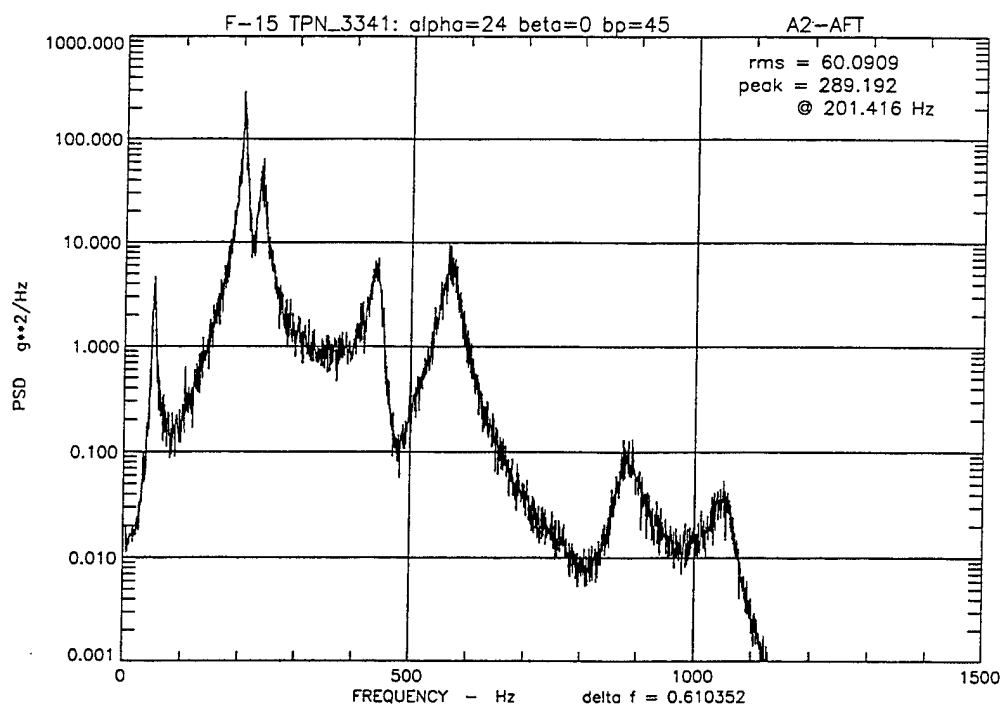


F-15 TPN_3339: alpha=20 beta=0 bp=45

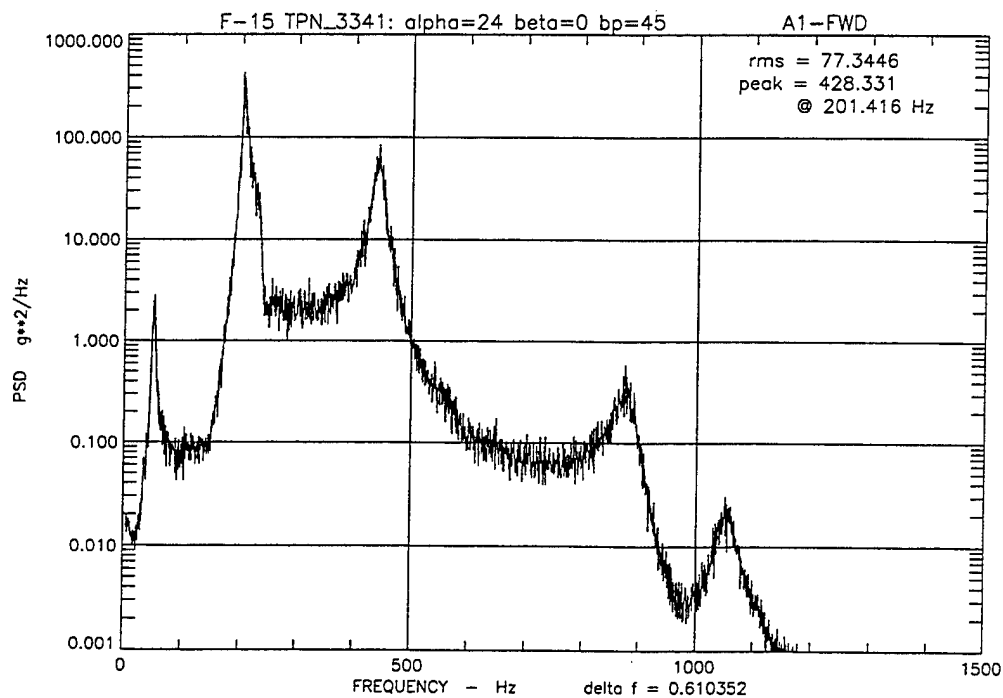




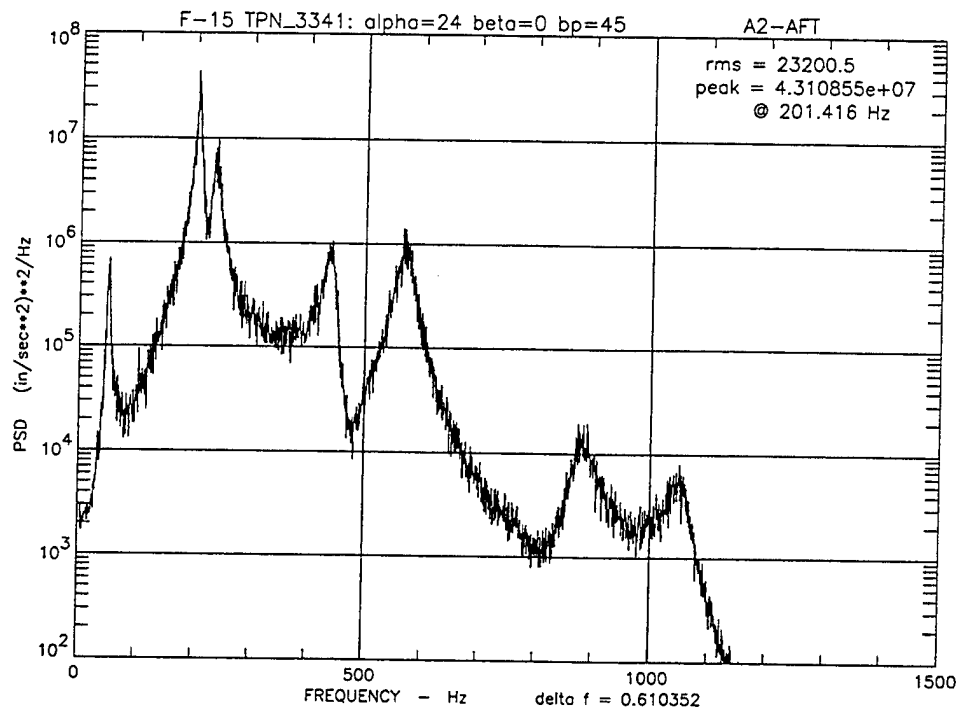
F-15 TPN_3341: alpha=24 beta=0 bp=45



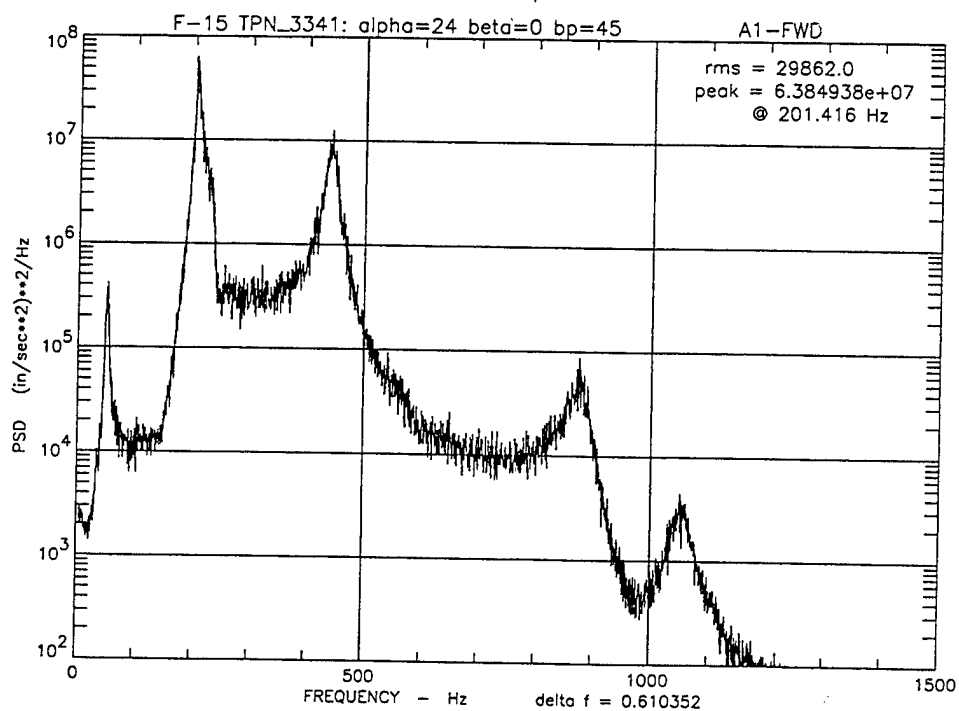
F-15 TPN_3341: alpha=24 beta=0 bp=45

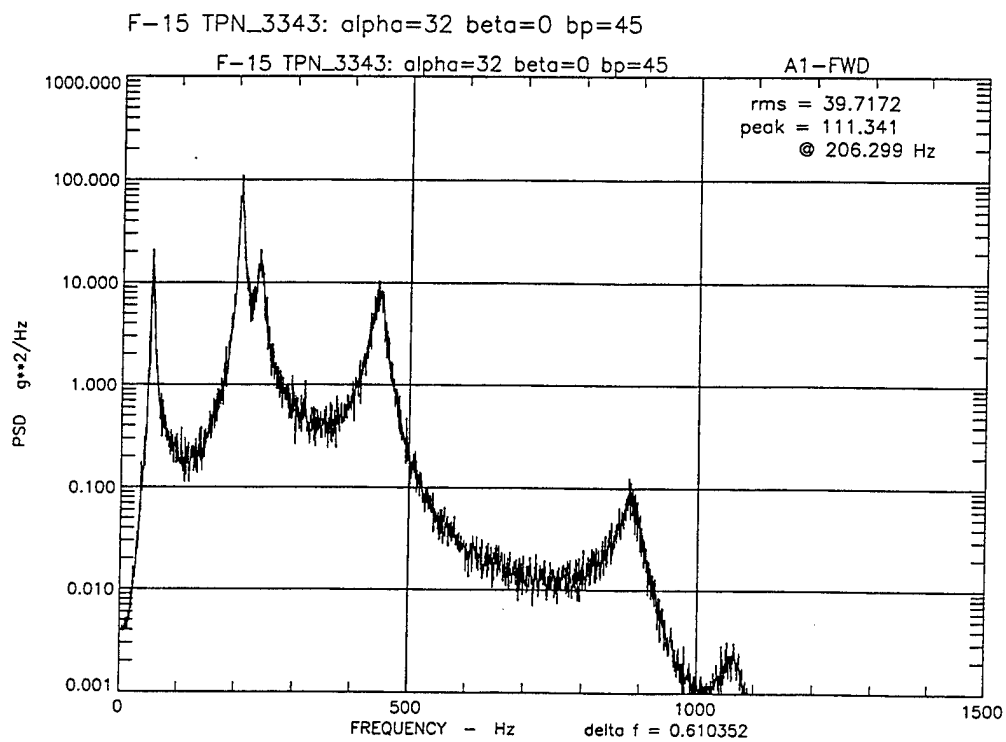
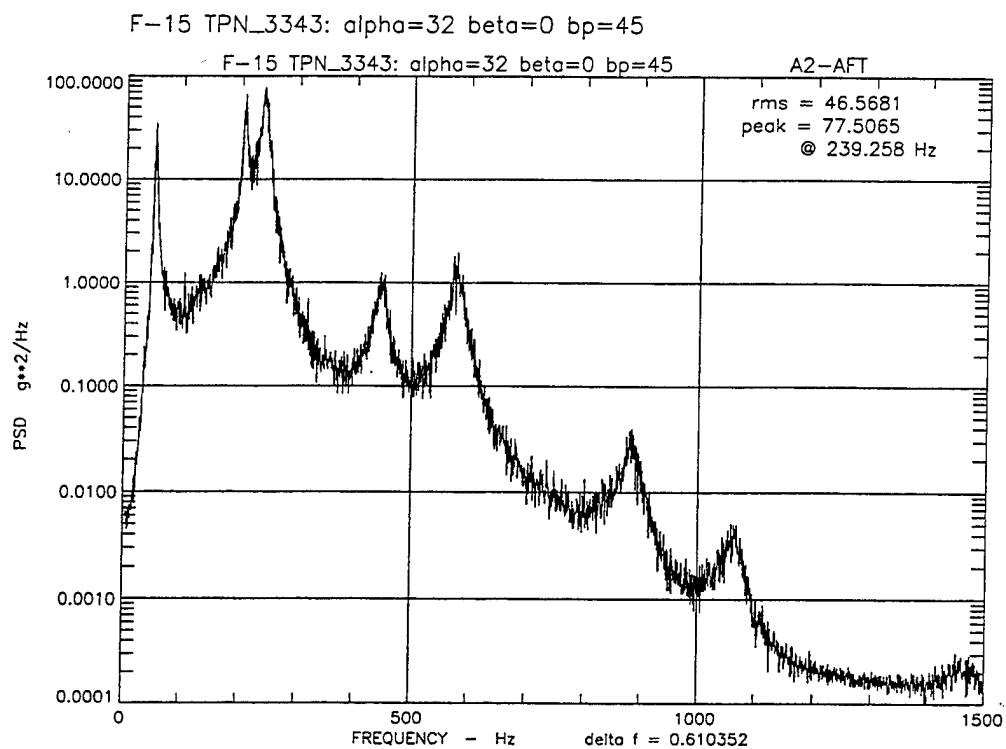


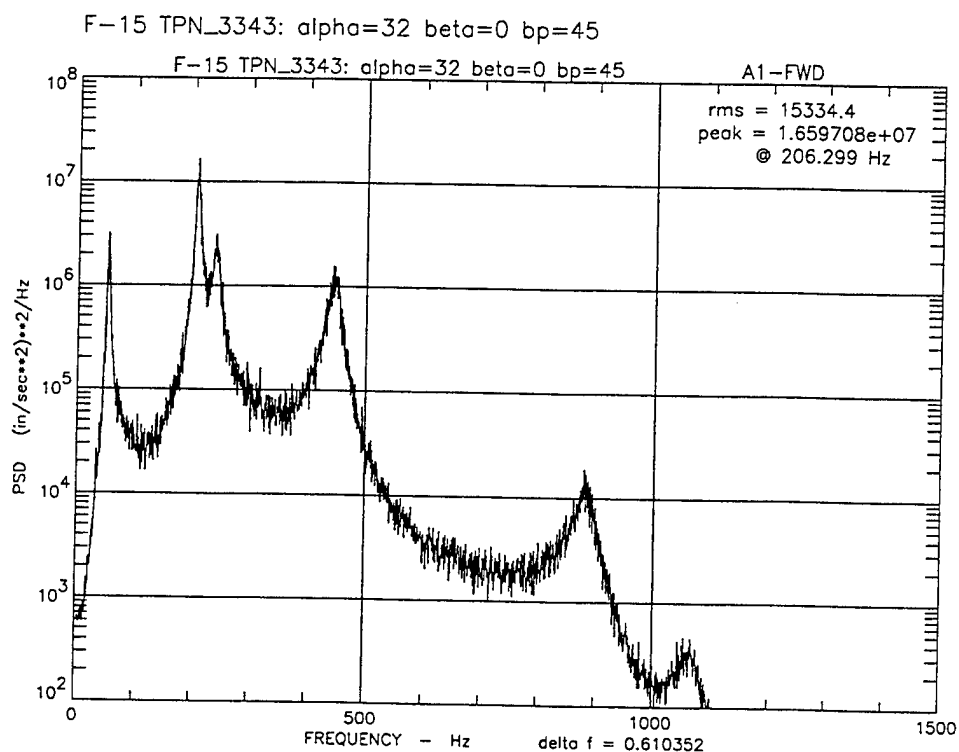
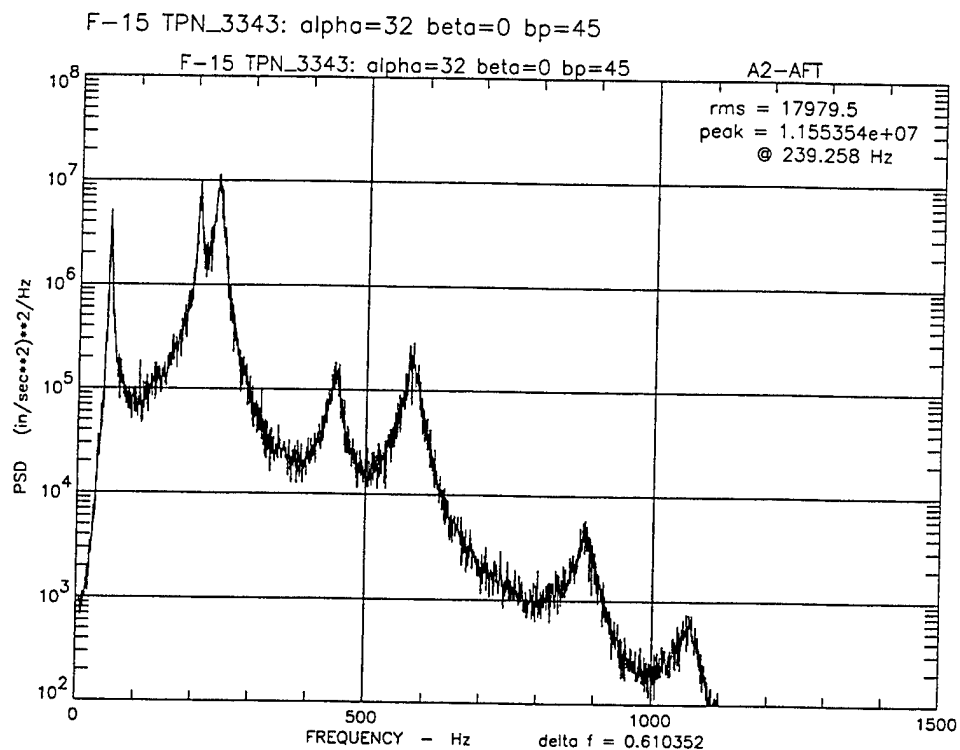
F-15 TPN_3341: alpha=24 beta=0 bp=45



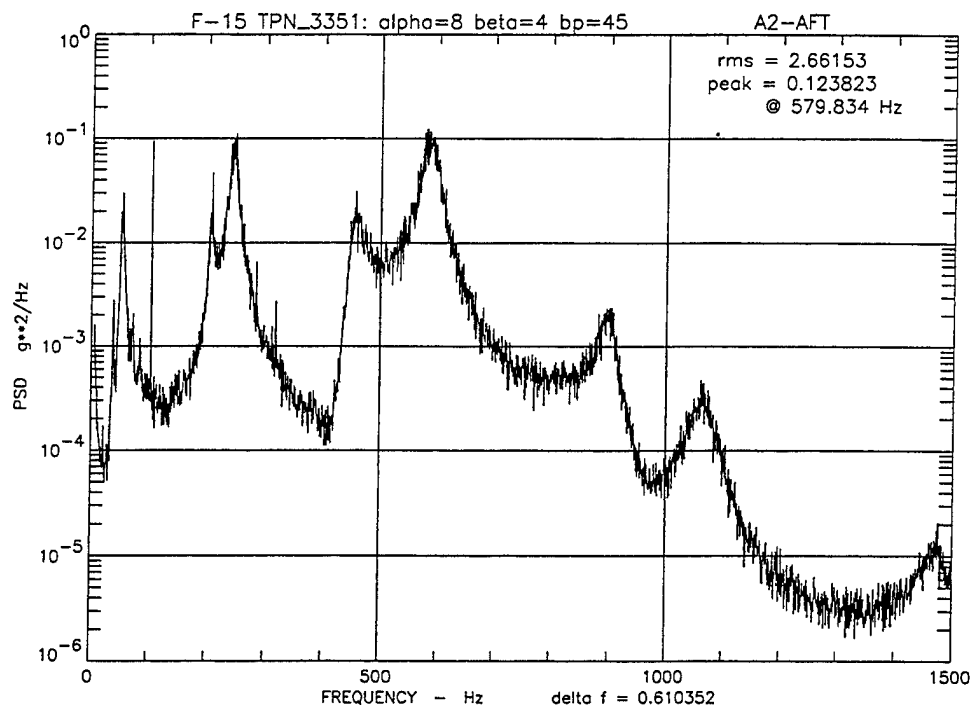
F-15 TPN_3341: alpha=24 beta=0 bp=45



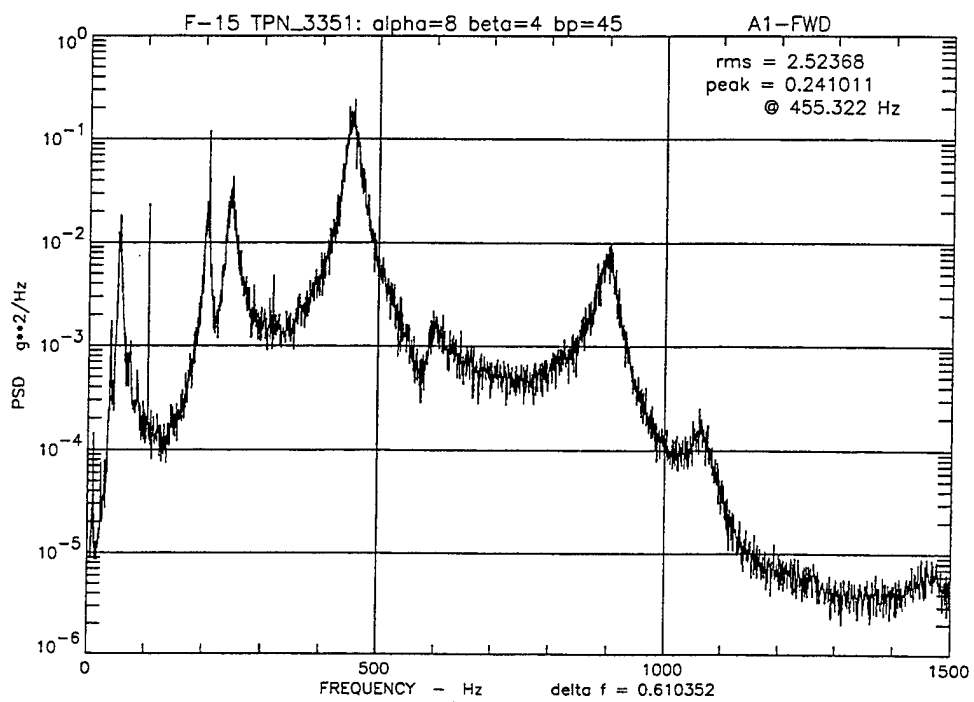


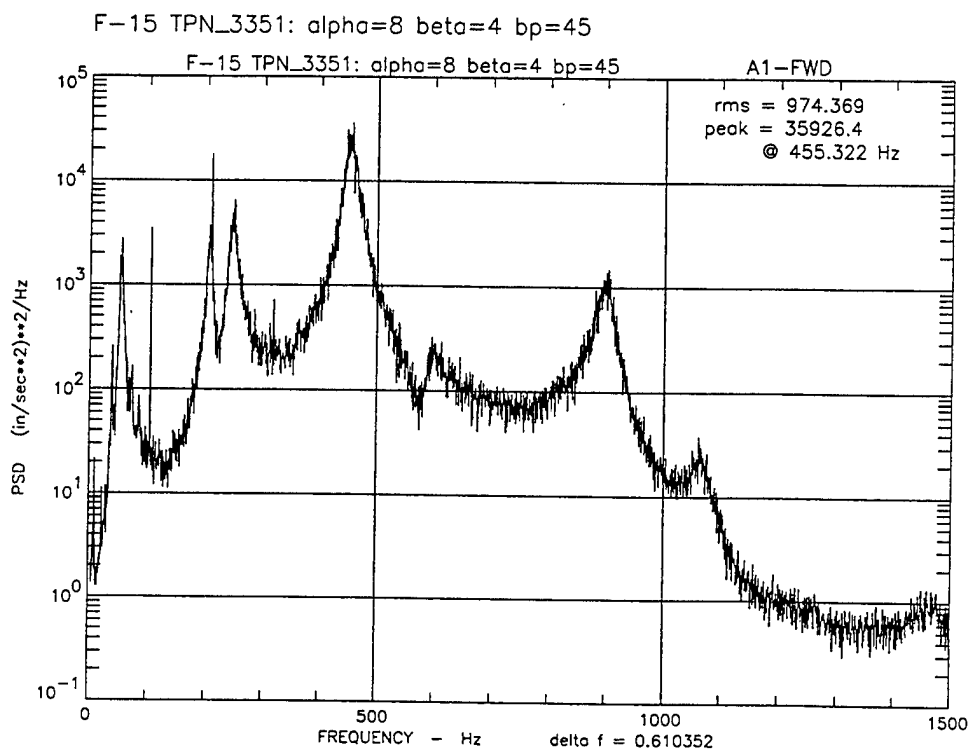
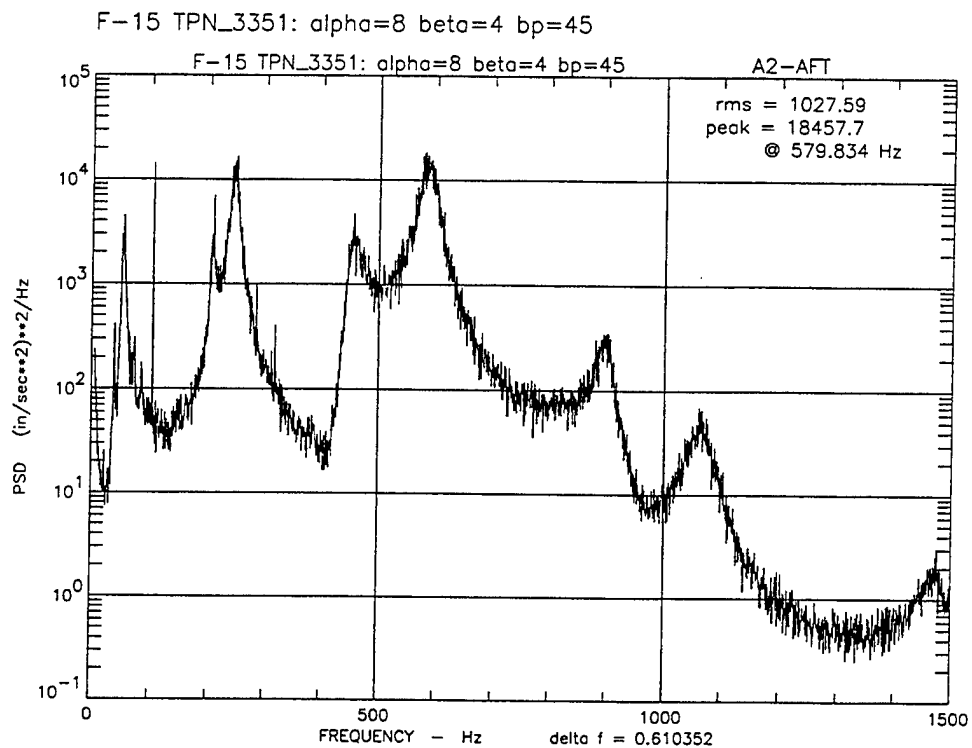


F-15 TPN_3351: alpha=8 beta=4 bp=45

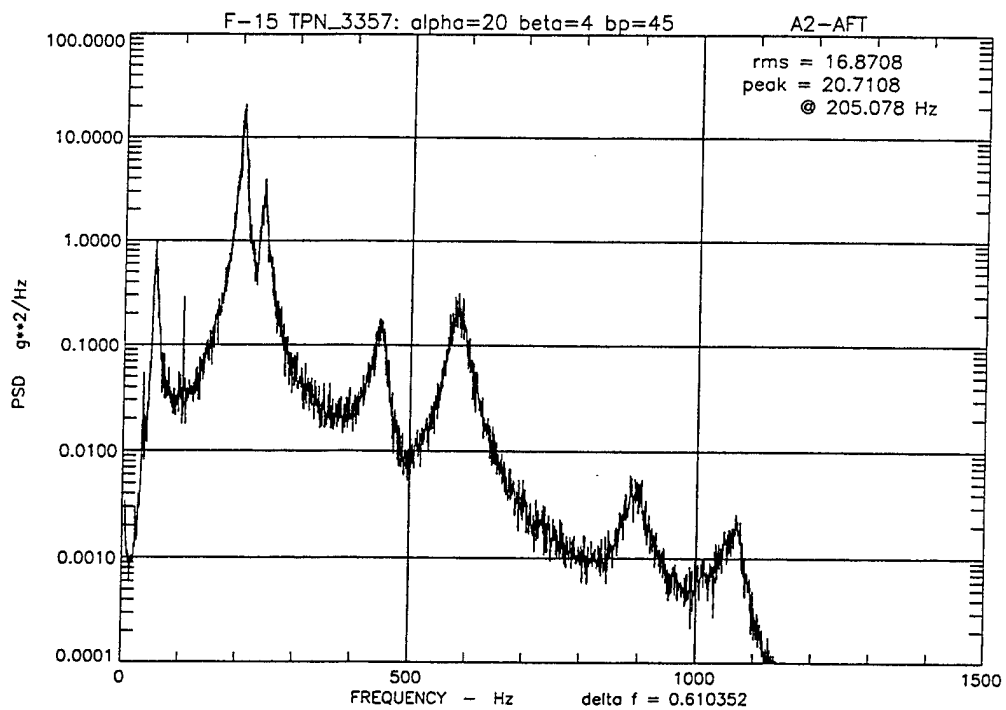


F-15 TPN_3351: alpha=8 beta=4 bp=45

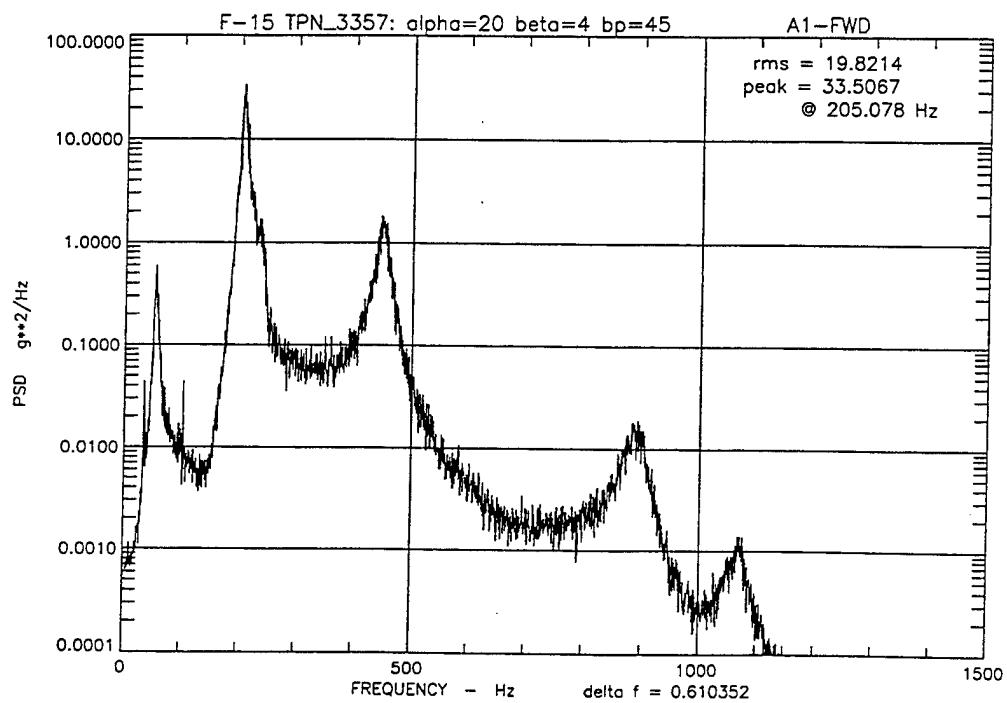




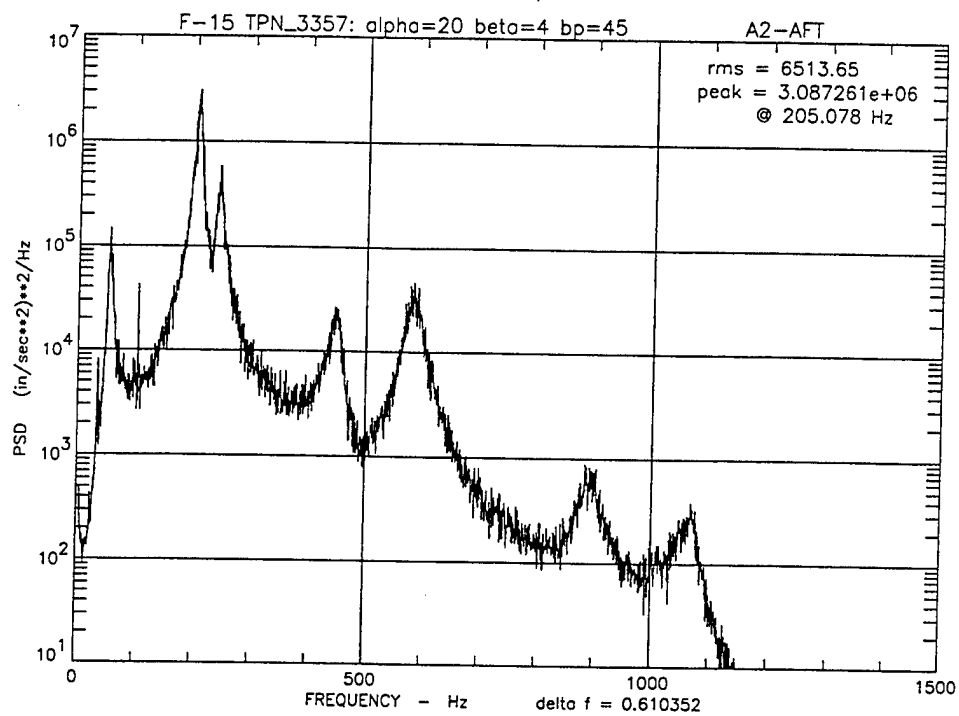
F-15 TPN_3357: alpha=20 beta=4 bp=45



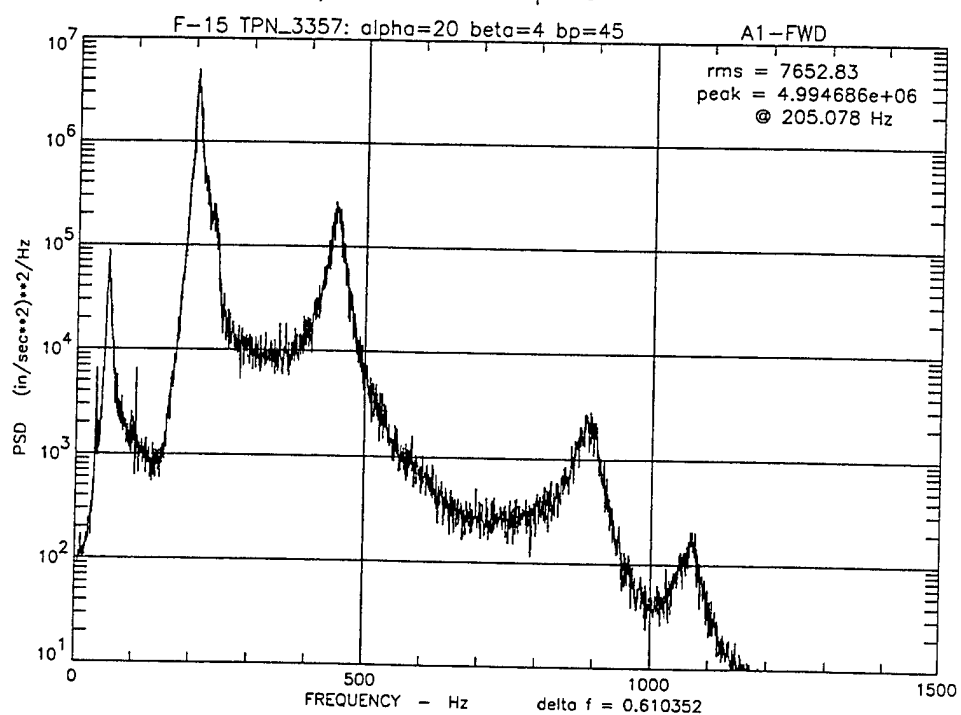
F-15 TPN_3357: alpha=20 beta=4 bp=45



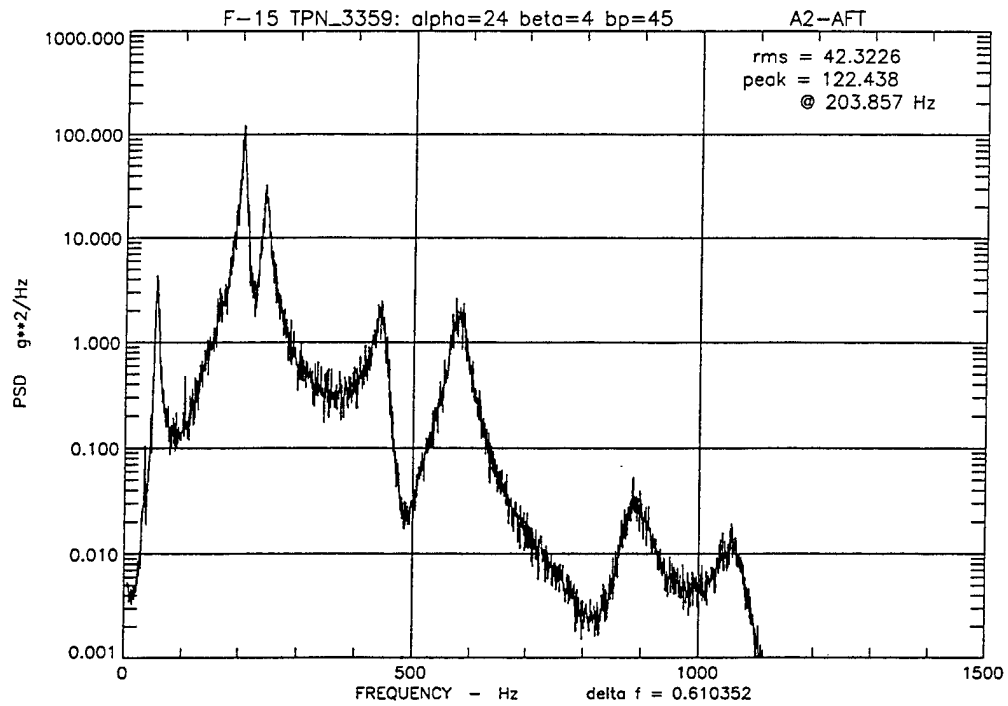
F-15 TPN_3357: alpha=20 beta=4 bp=45



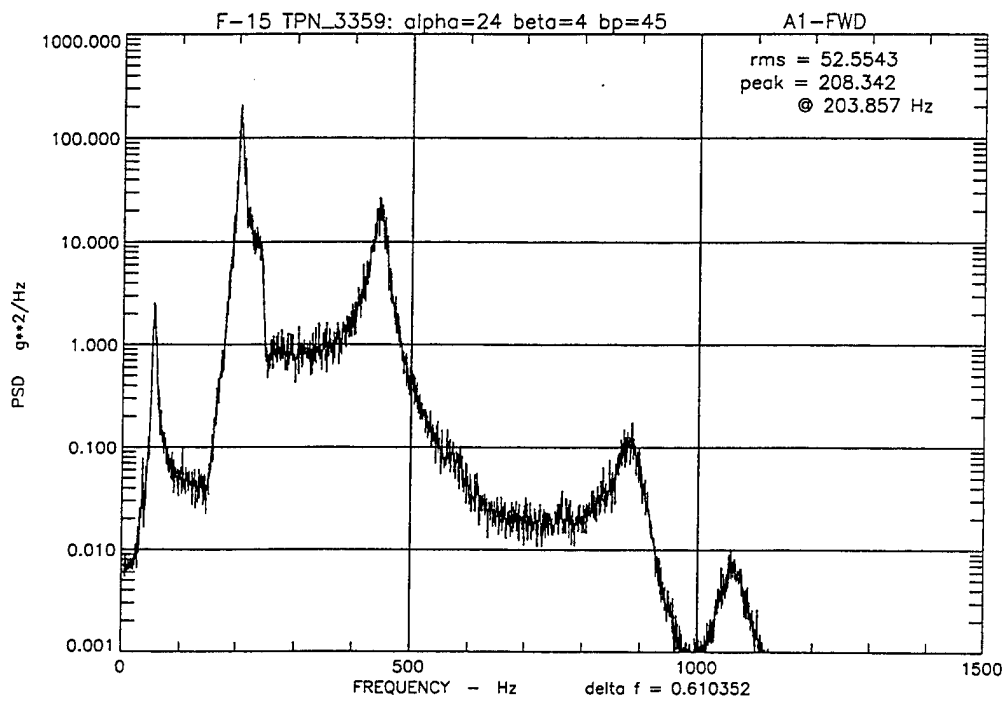
F-15 TPN_3357: alpha=20 beta=4 bp=45



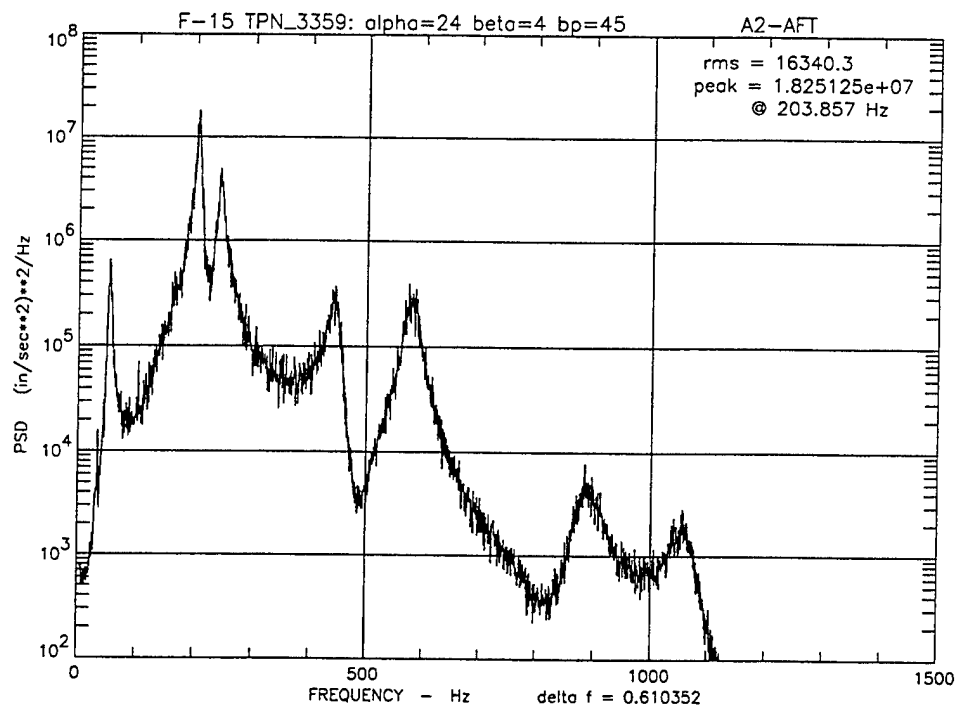
F-15 TPN_3359: alpha=24 beta=4 bp=45



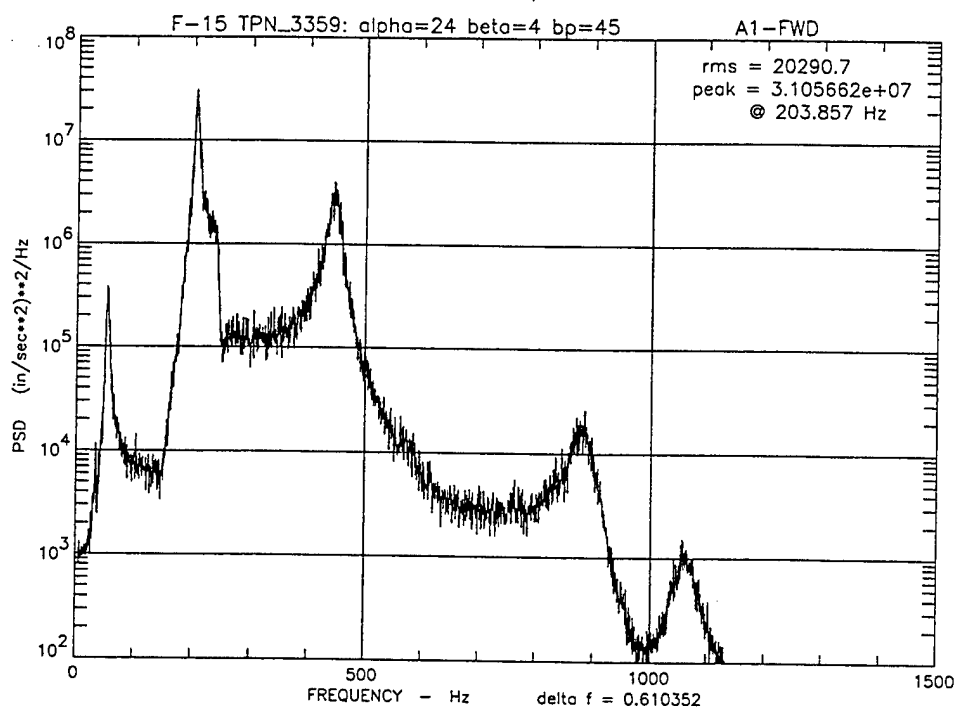
F-15 TPN_3359: alpha=24 beta=4 bp=45

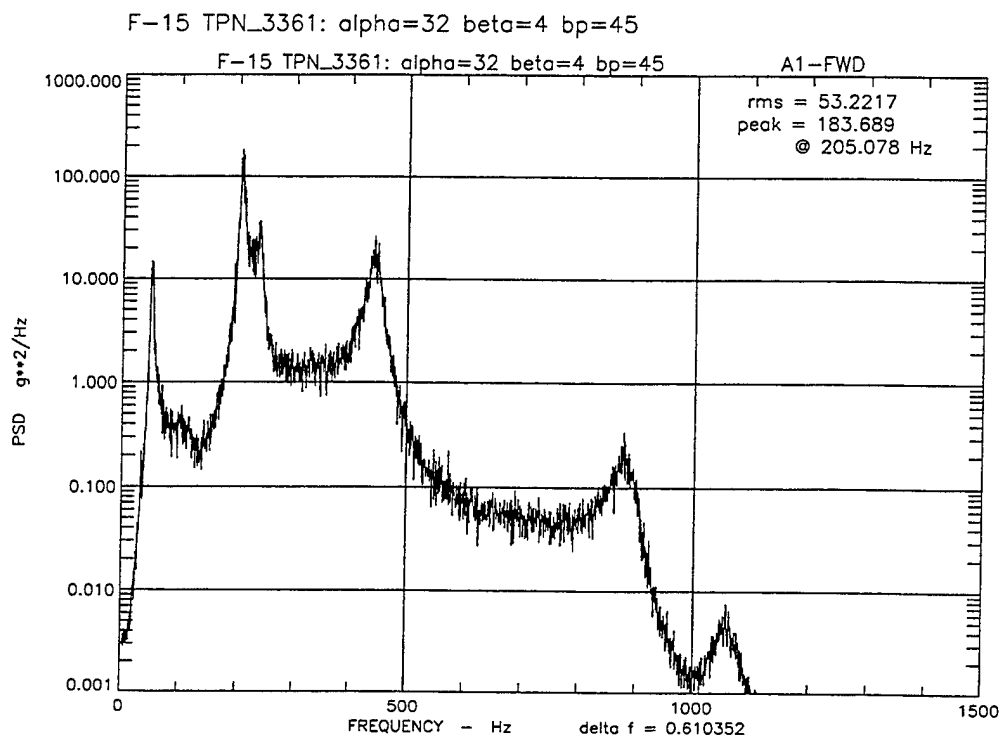
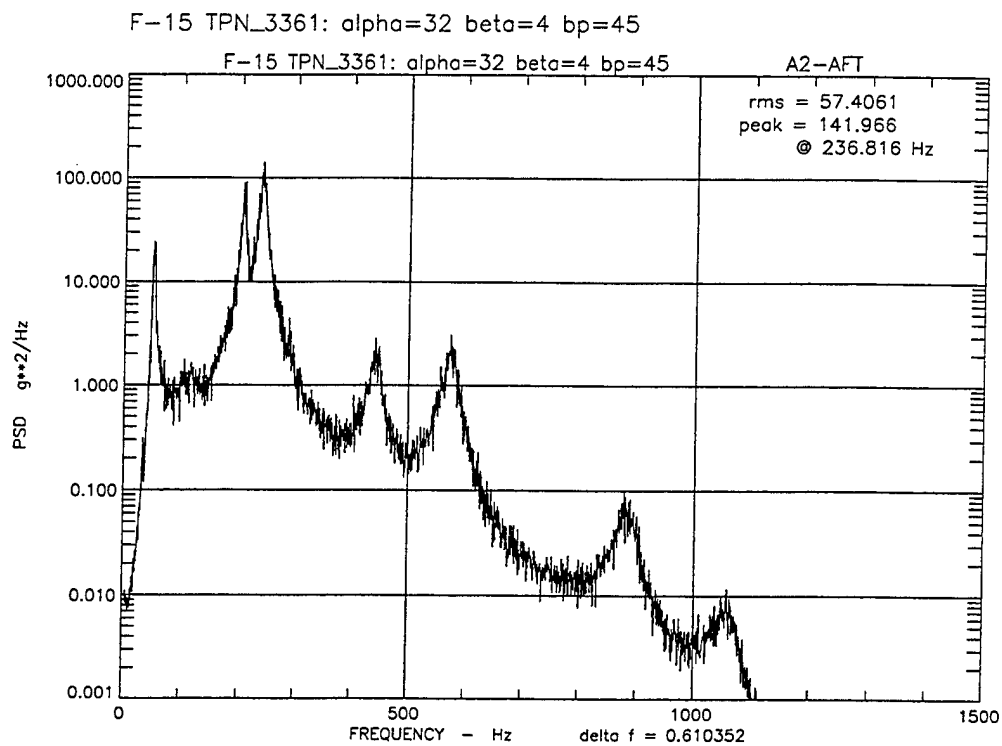


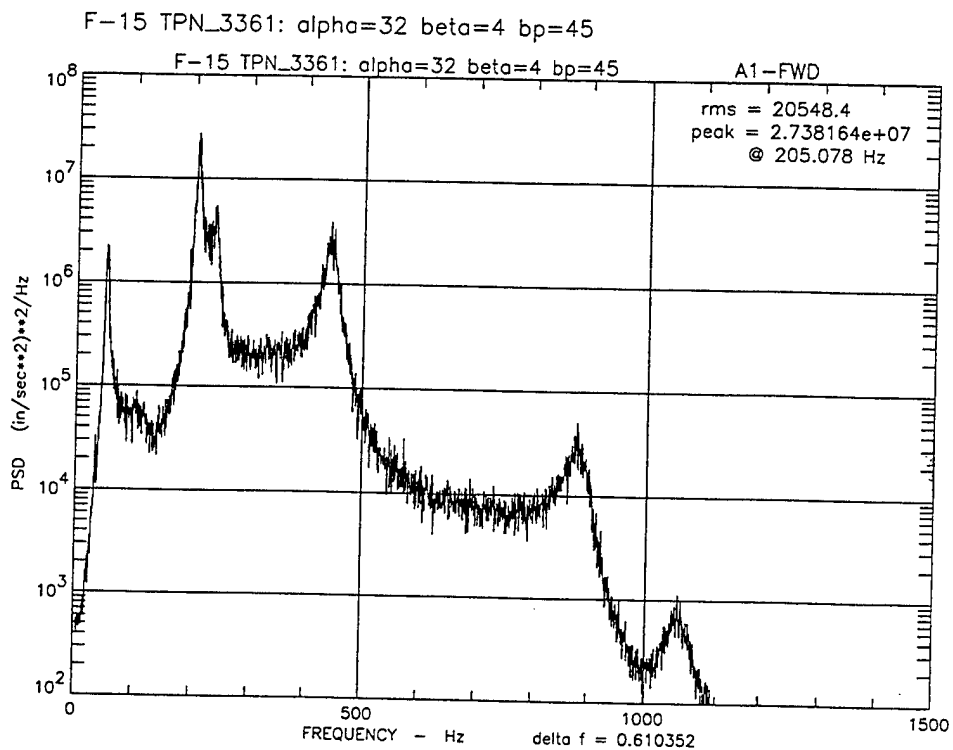
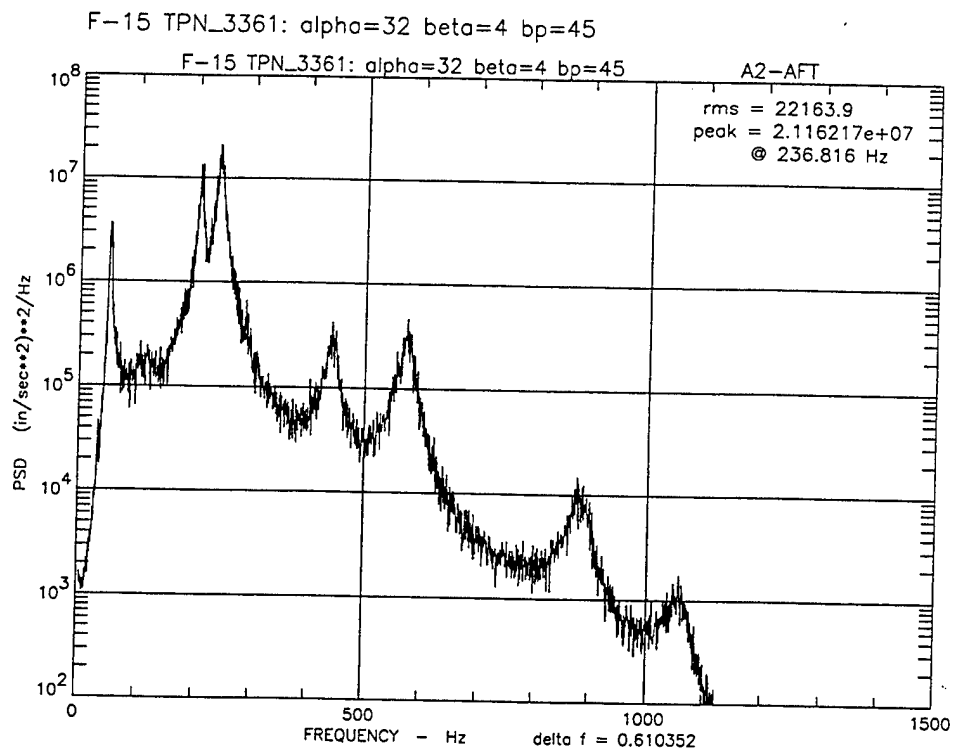
F-15 TPN_3359: alpha=24 beta=4 bp=45

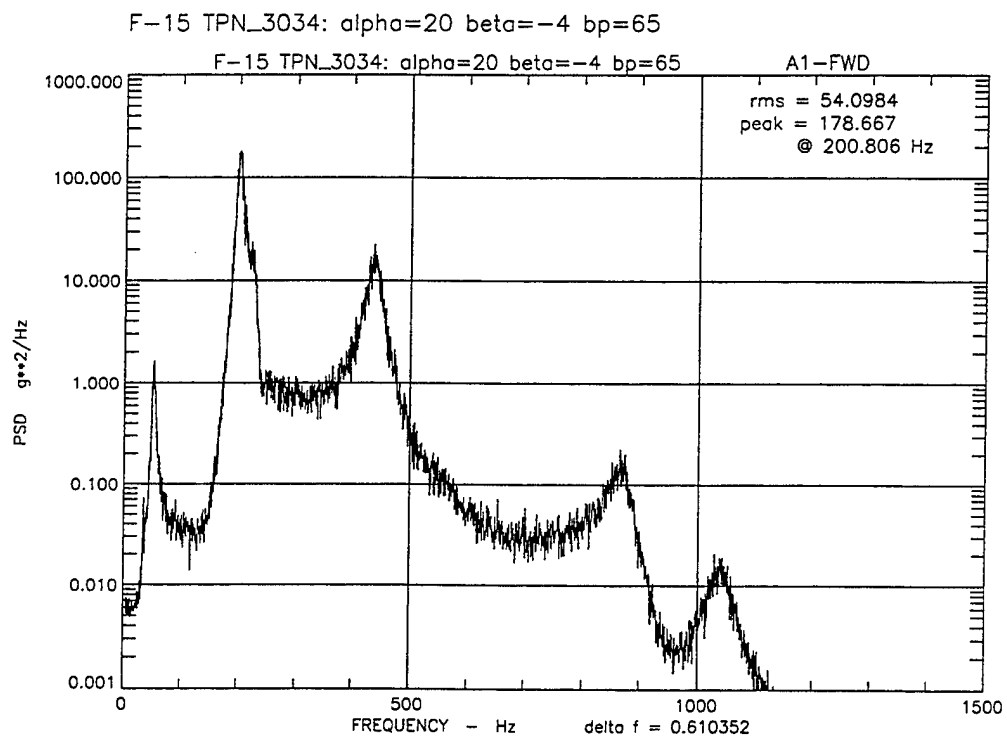
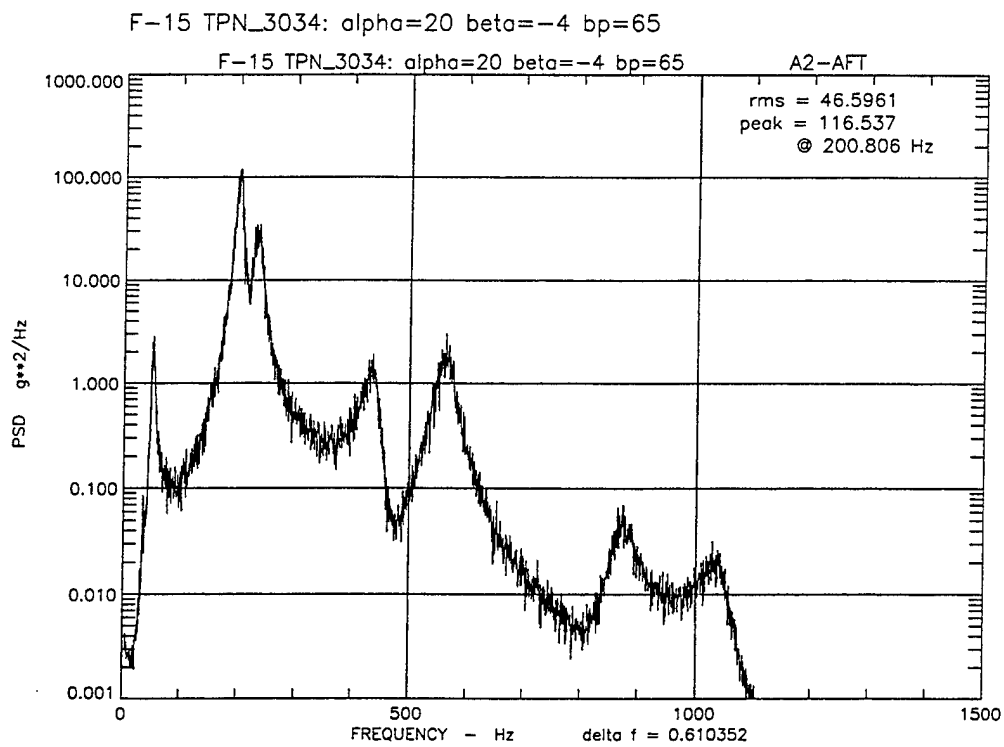


F-15 TPN_3359: alpha=24 beta=4 bp=45

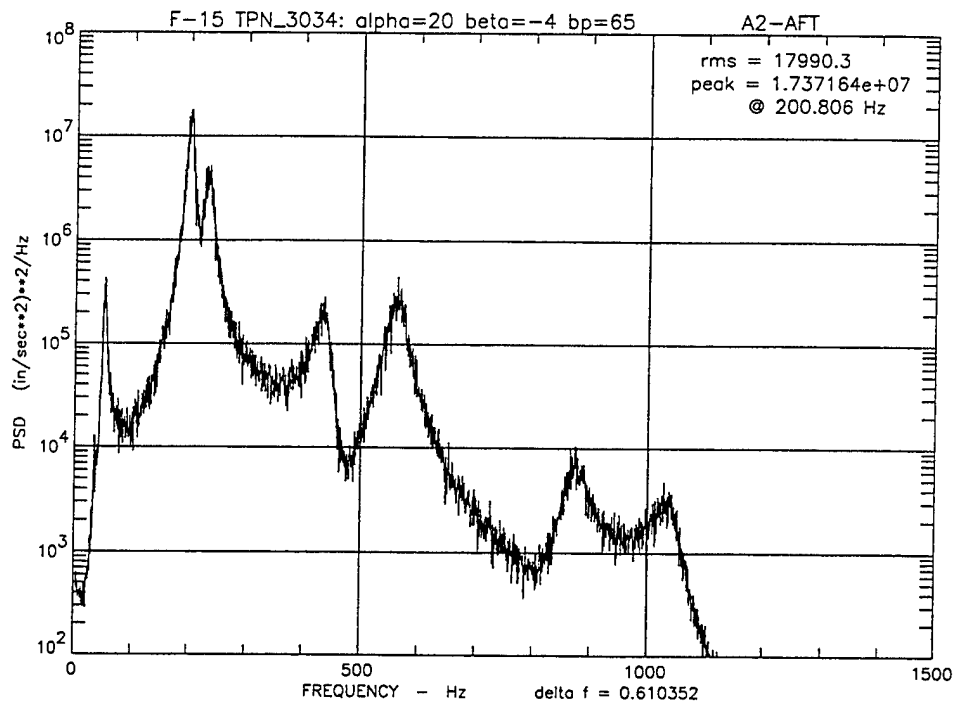




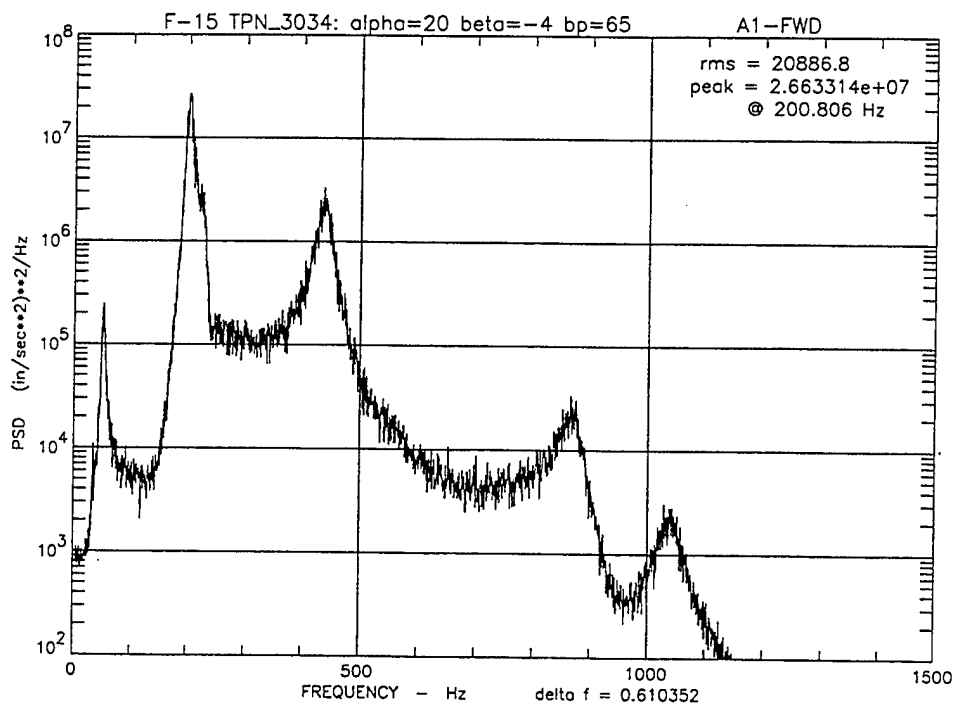




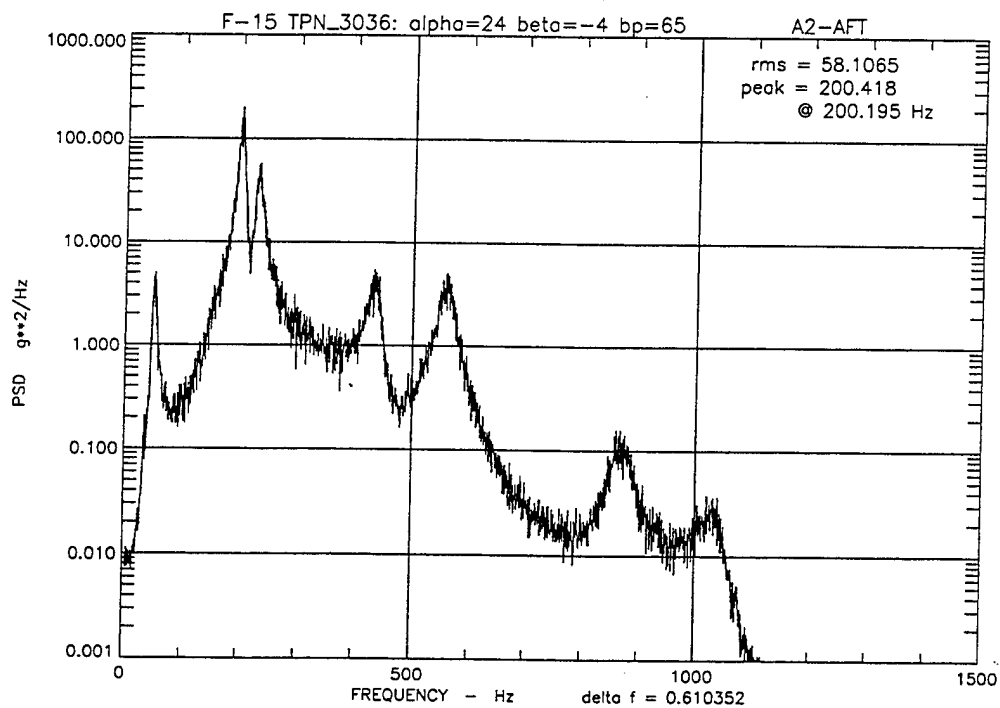
F-15 TPN_3034: alpha=20 beta=-4 bp=65



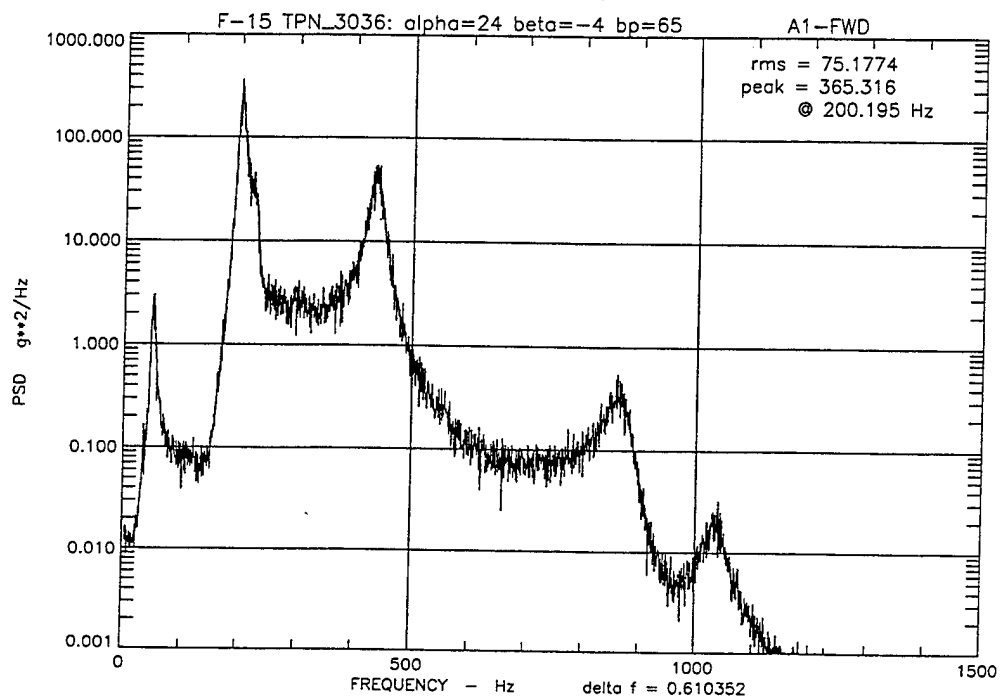
F-15 TPN_3034: alpha=20 beta=-4 bp=65



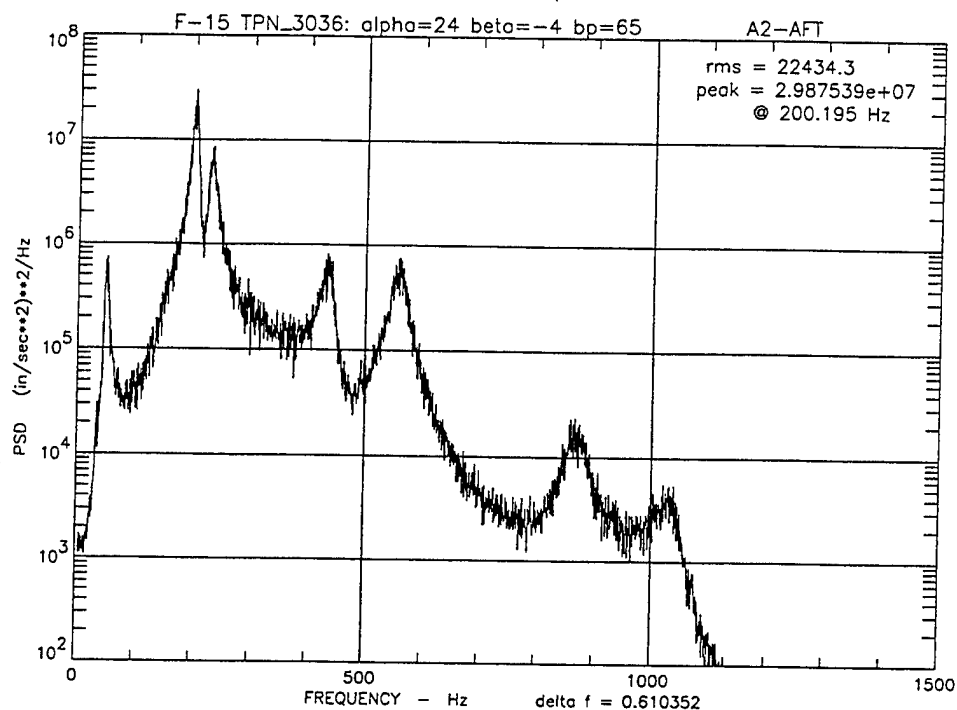
F-15 TPN_3036: alpha=24 beta=-4 bp=65



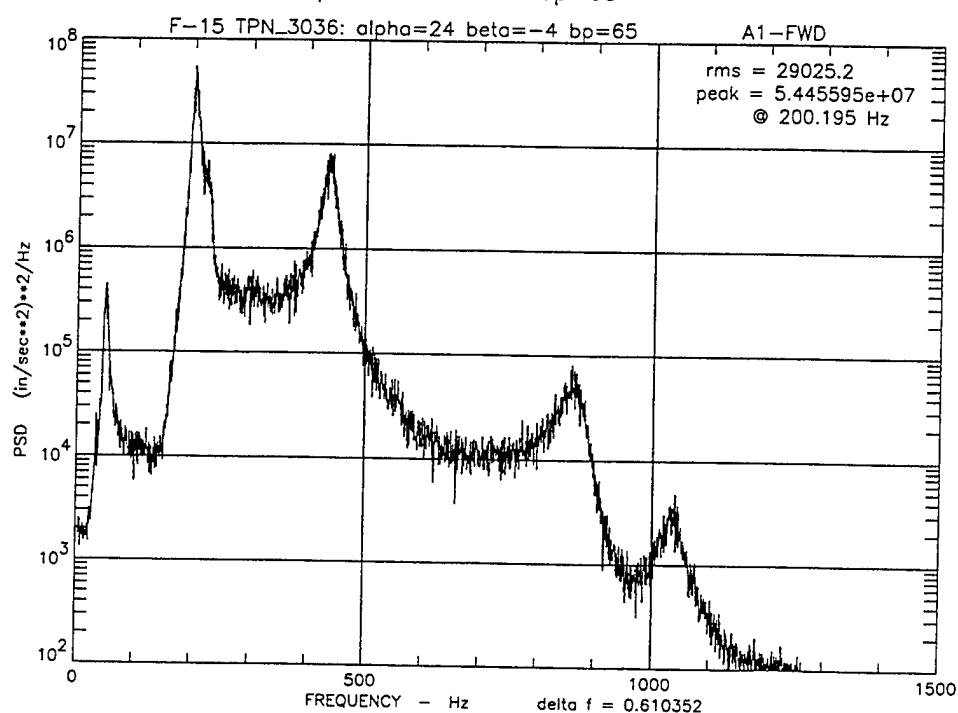
F-15 TPN_3036: alpha=24 beta=-4 bp=65



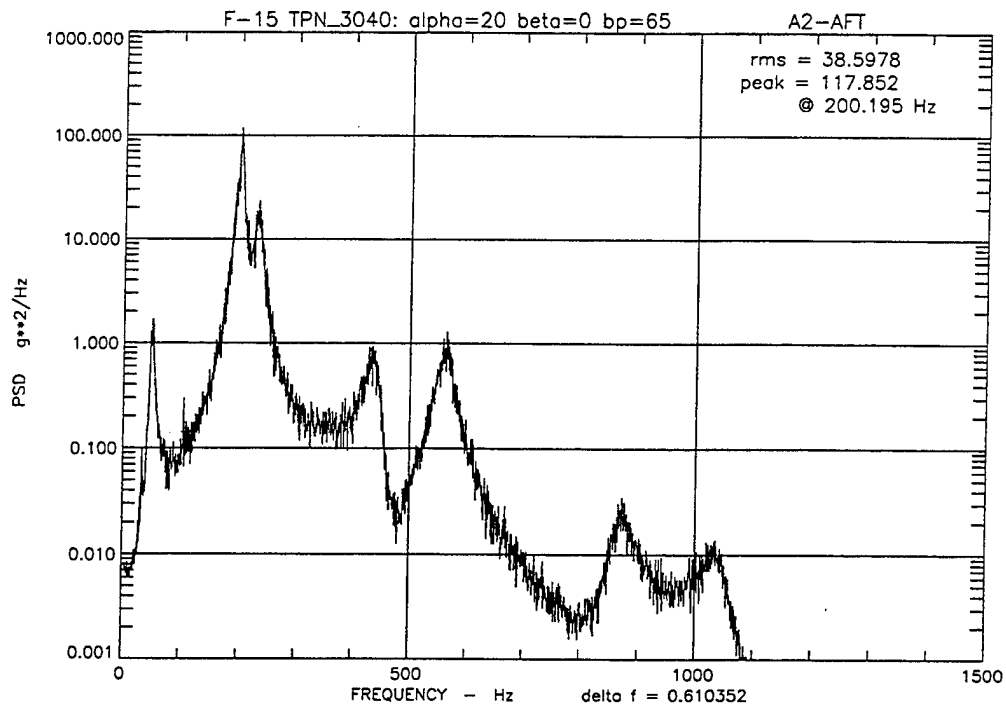
F-15 TPN_3036: alpha=24 beta=-4 bp=65



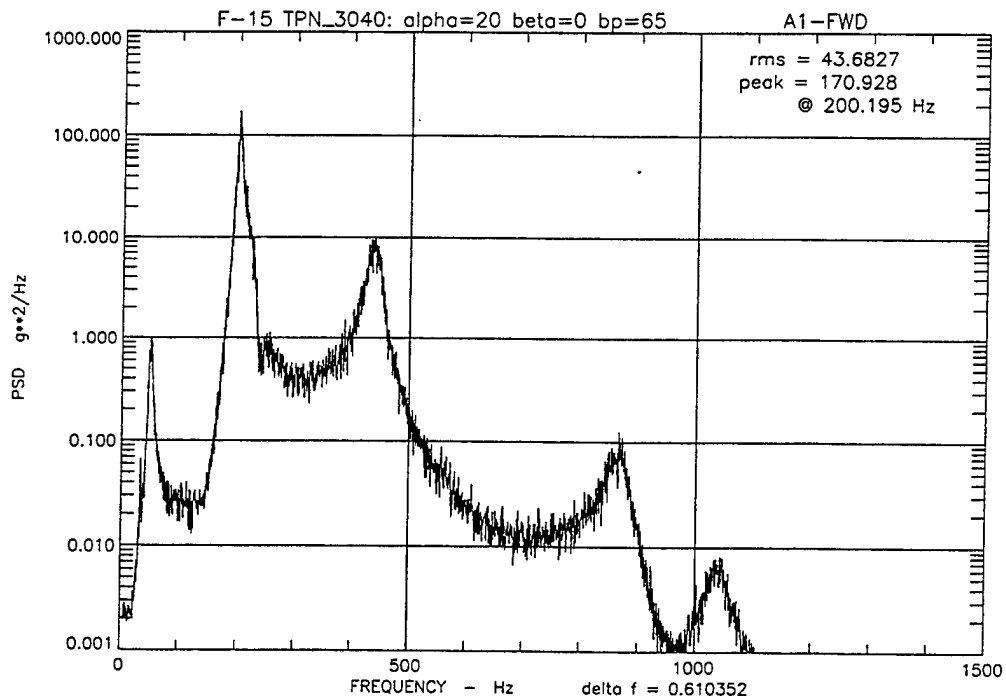
F-15 TPN_3036: alpha=24 beta=-4 bp=65

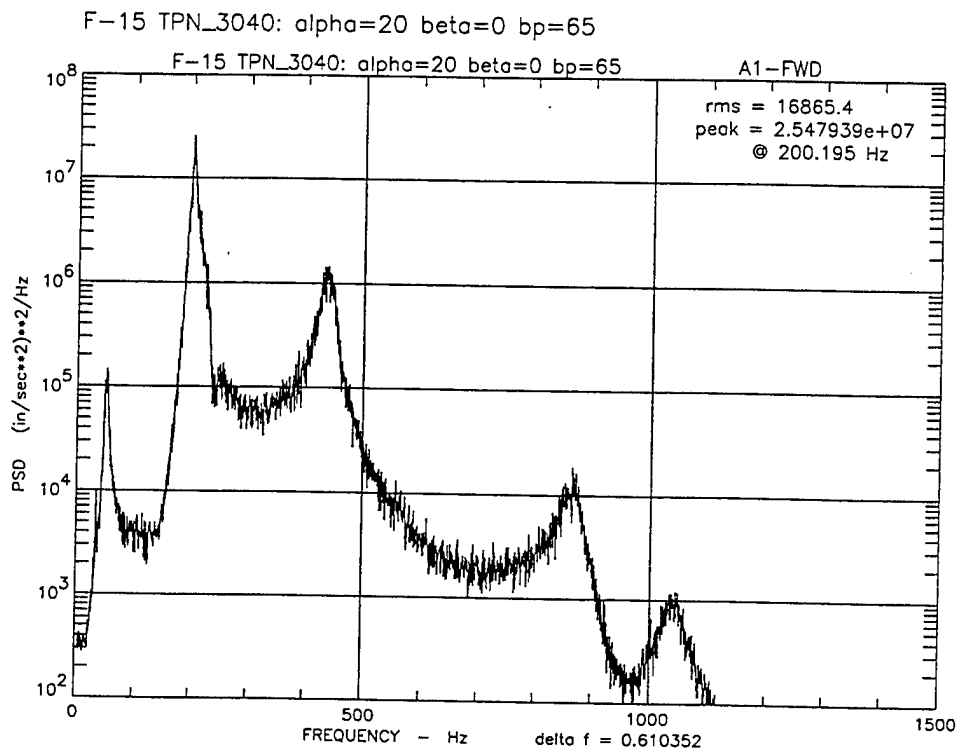
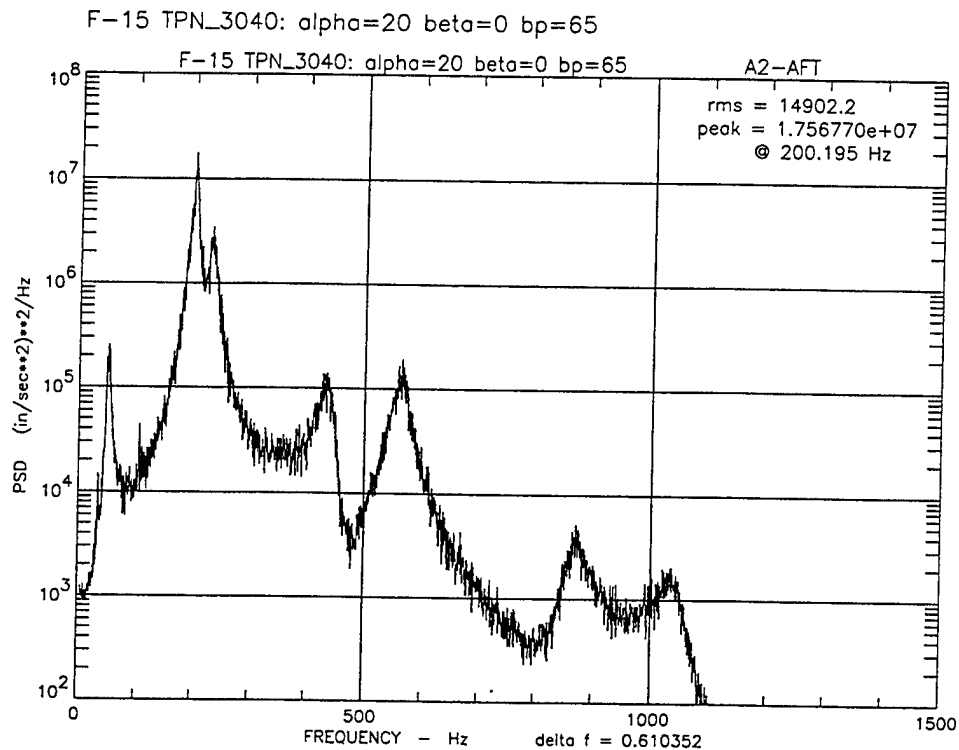


F-15 TPN_3040: alpha=20 beta=0 bp=65

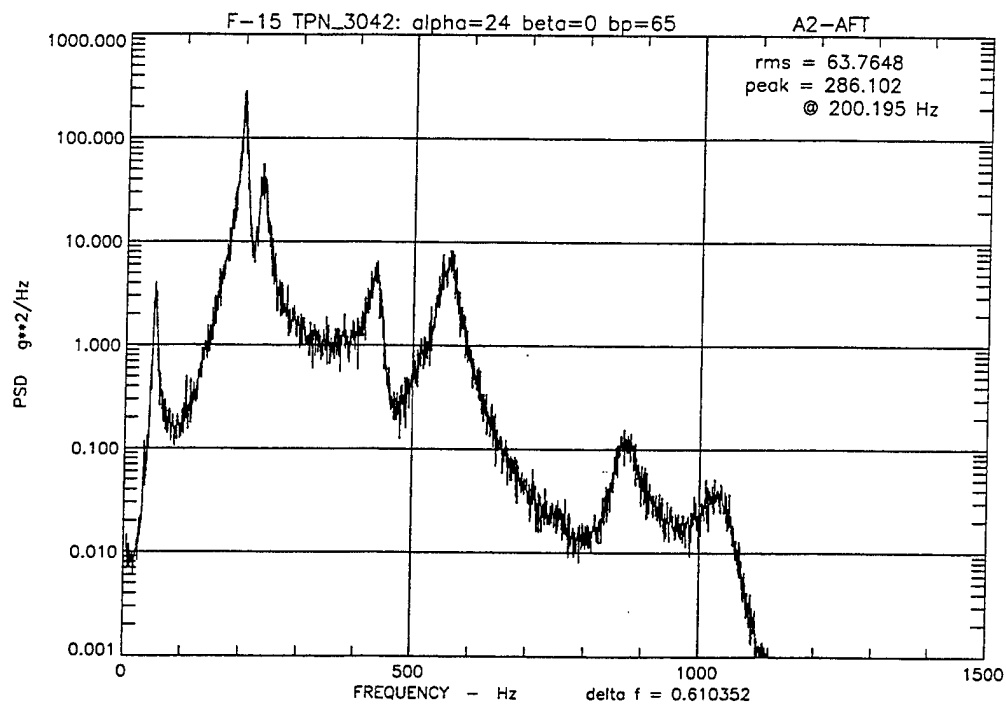


F-15 TPN_3040: alpha=20 beta=0 bp=65

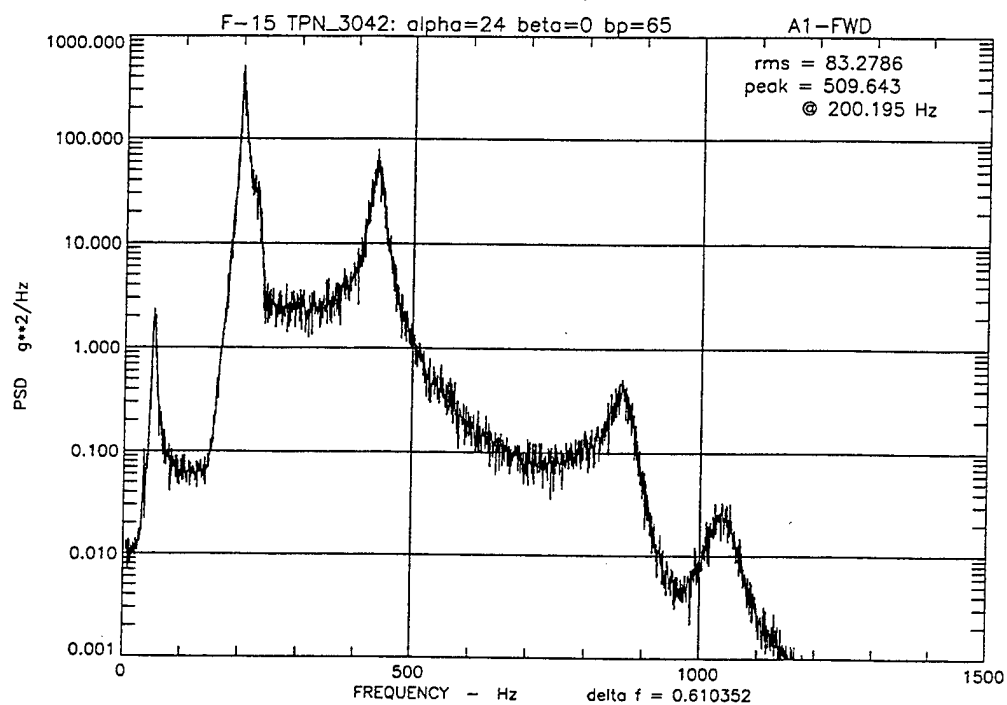




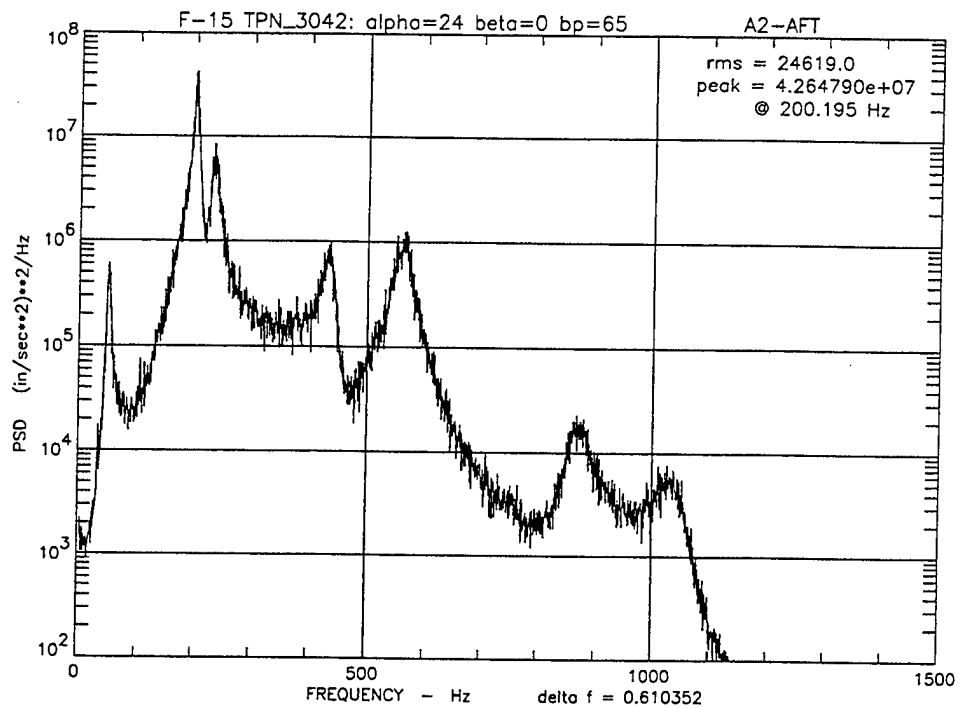
F-15 TPN_3042: alpha=24 beta=0 bp=65



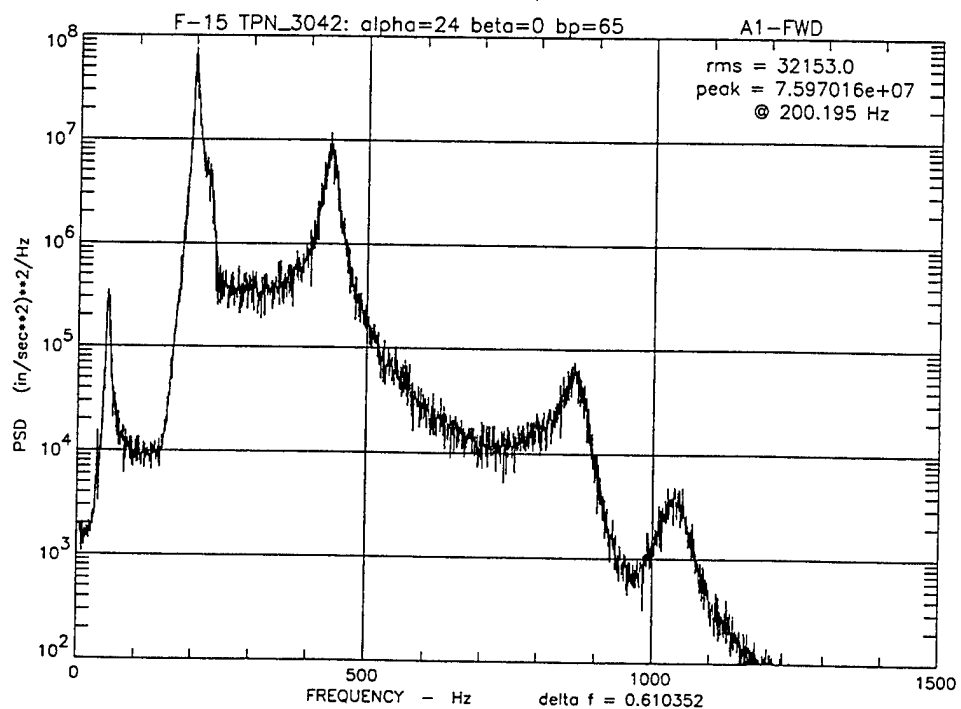
F-15 TPN_3042: alpha=24 beta=0 bp=65



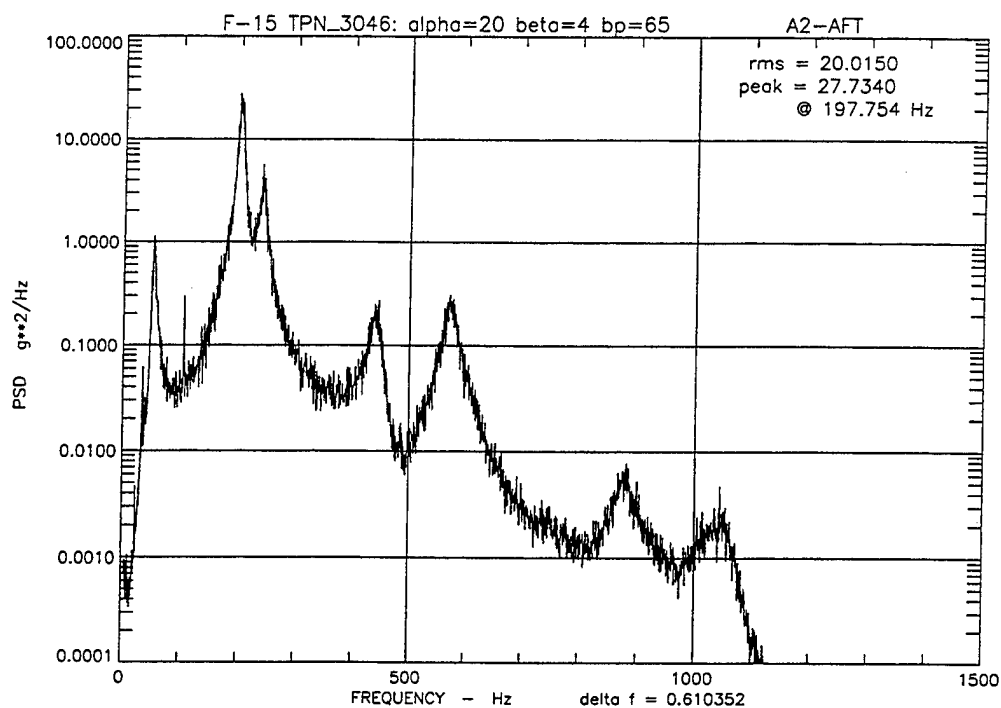
F-15 TPN_3042: alpha=24 beta=0 bp=65



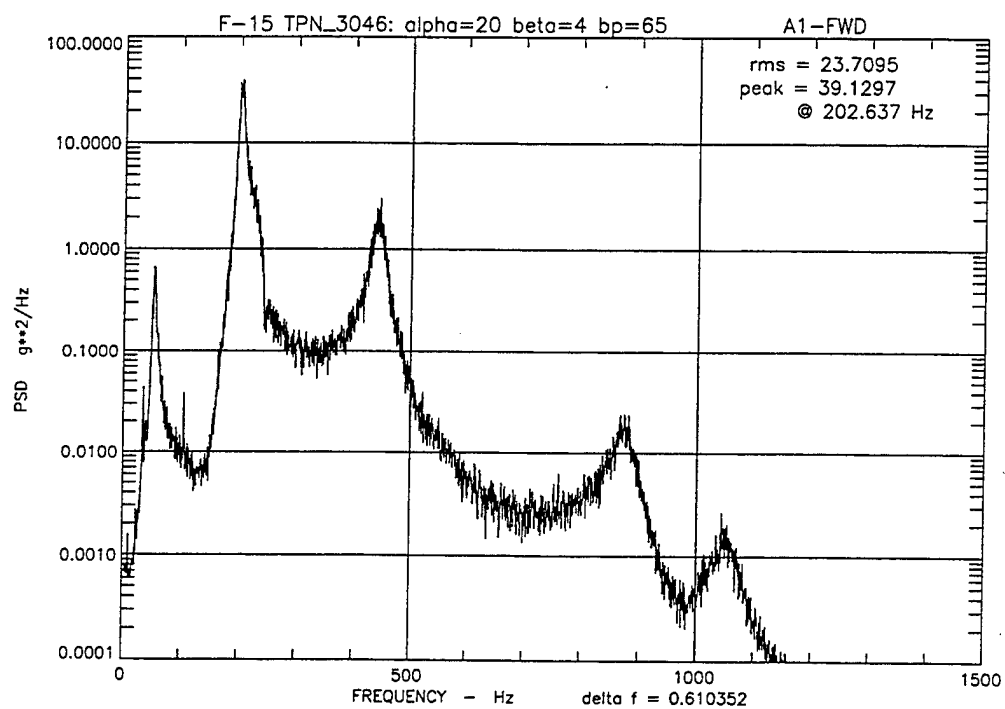
F-15 TPN_3042: alpha=24 beta=0 bp=65

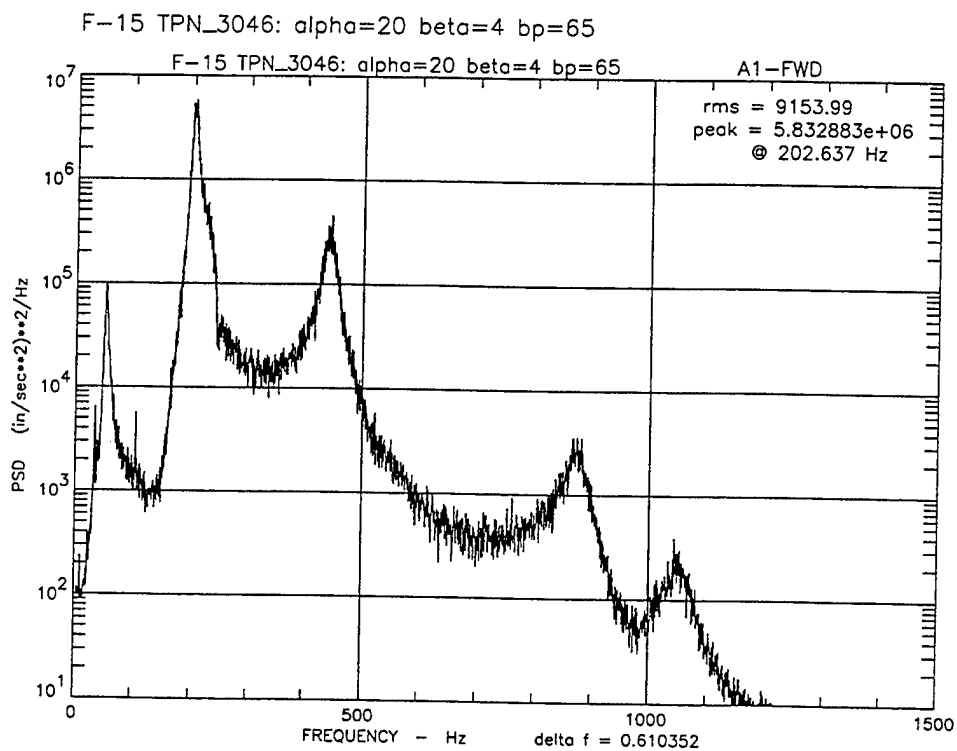
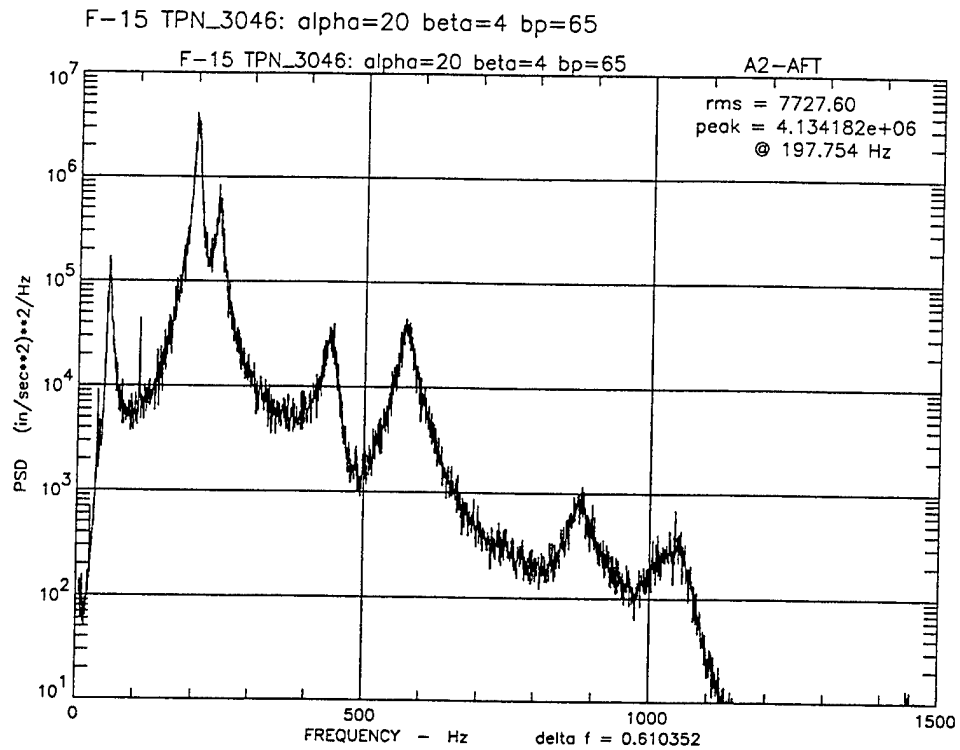


F-15 TPN_3046: alpha=20 beta=4 bp=65

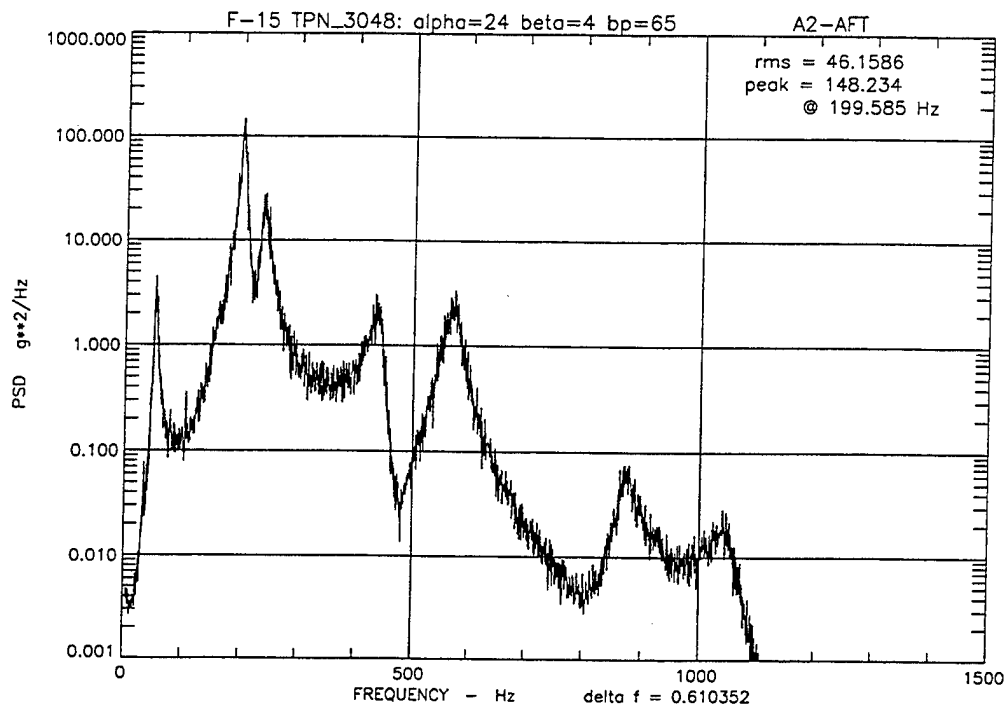


F-15 TPN_3046: alpha=20 beta=4 bp=65

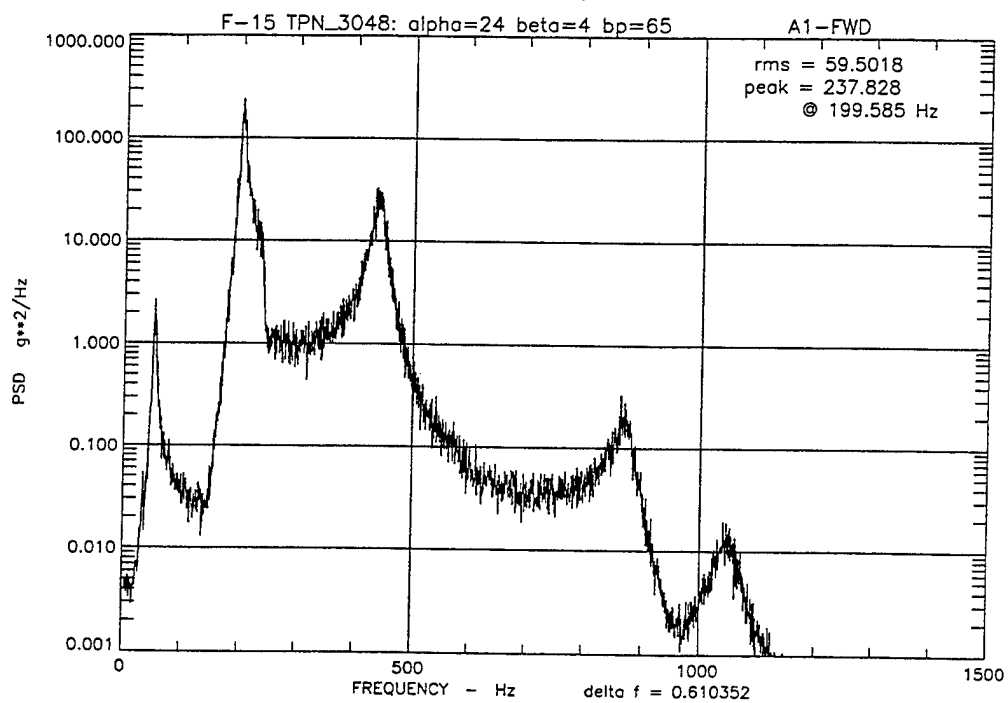




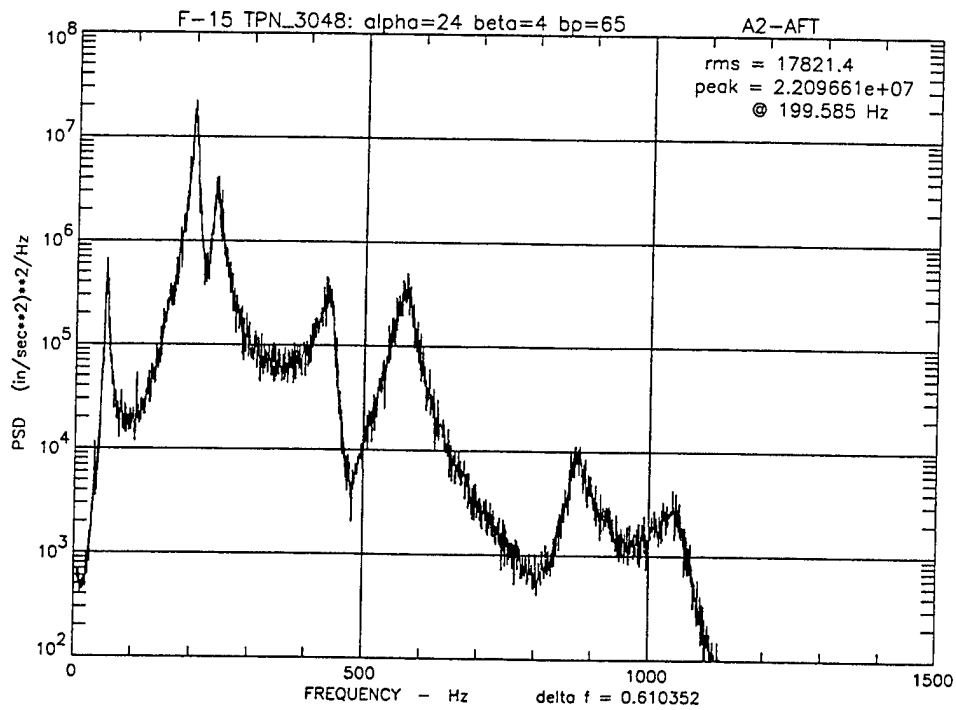
F-15 TPN_3048: alpha=24 beta=4 bp=65



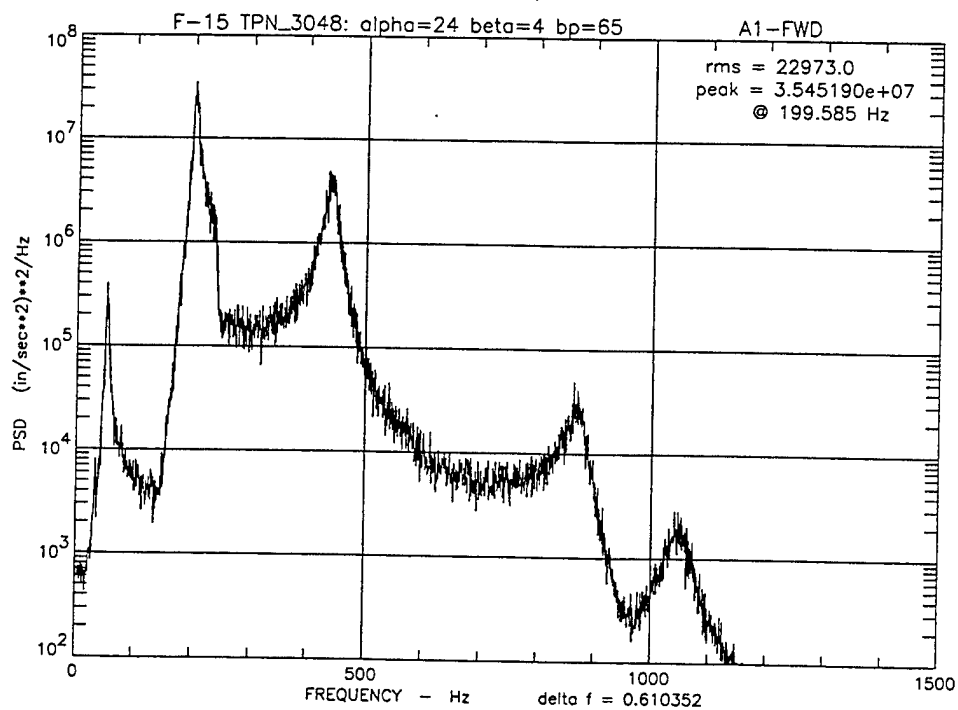
F-15 TPN_3048: alpha=24 beta=4 bp=65



F-15 TPN_3048: alpha=24 beta=4 bp=65



F-15 TPN_3048: alpha=24 beta=4 bp=65



**FLEXIBLE TAIL RESPONSE
ACCELERATION DATA**

Q= 56 PSF

PSD GRAPHS

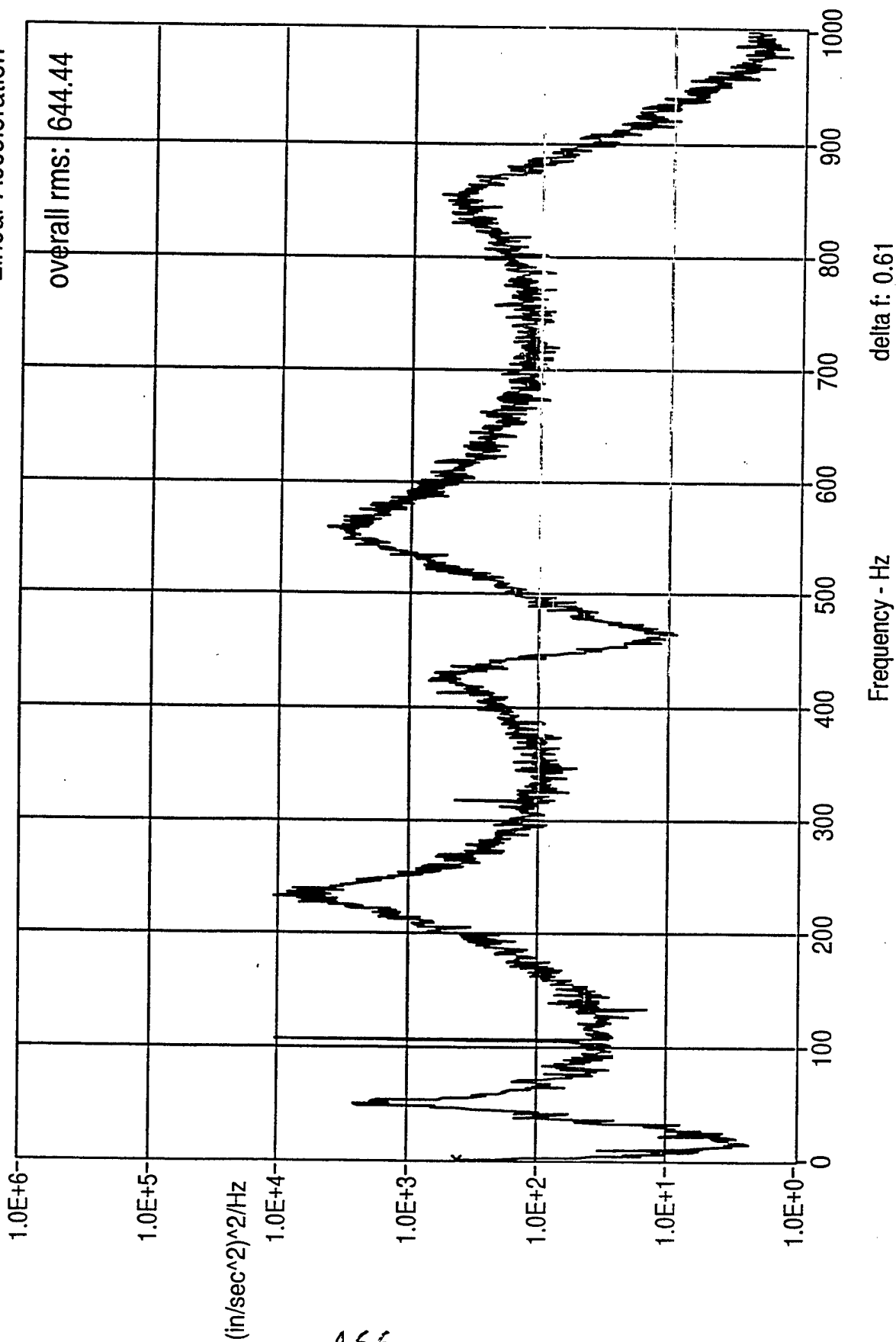
4.1.1.2 BENDING(LINEAR AT EA) beta= 0, +4, -4 Deg, WBP = 0, 45, 65 psi

ALPHAS = 8, 20, 24, 32 DEG

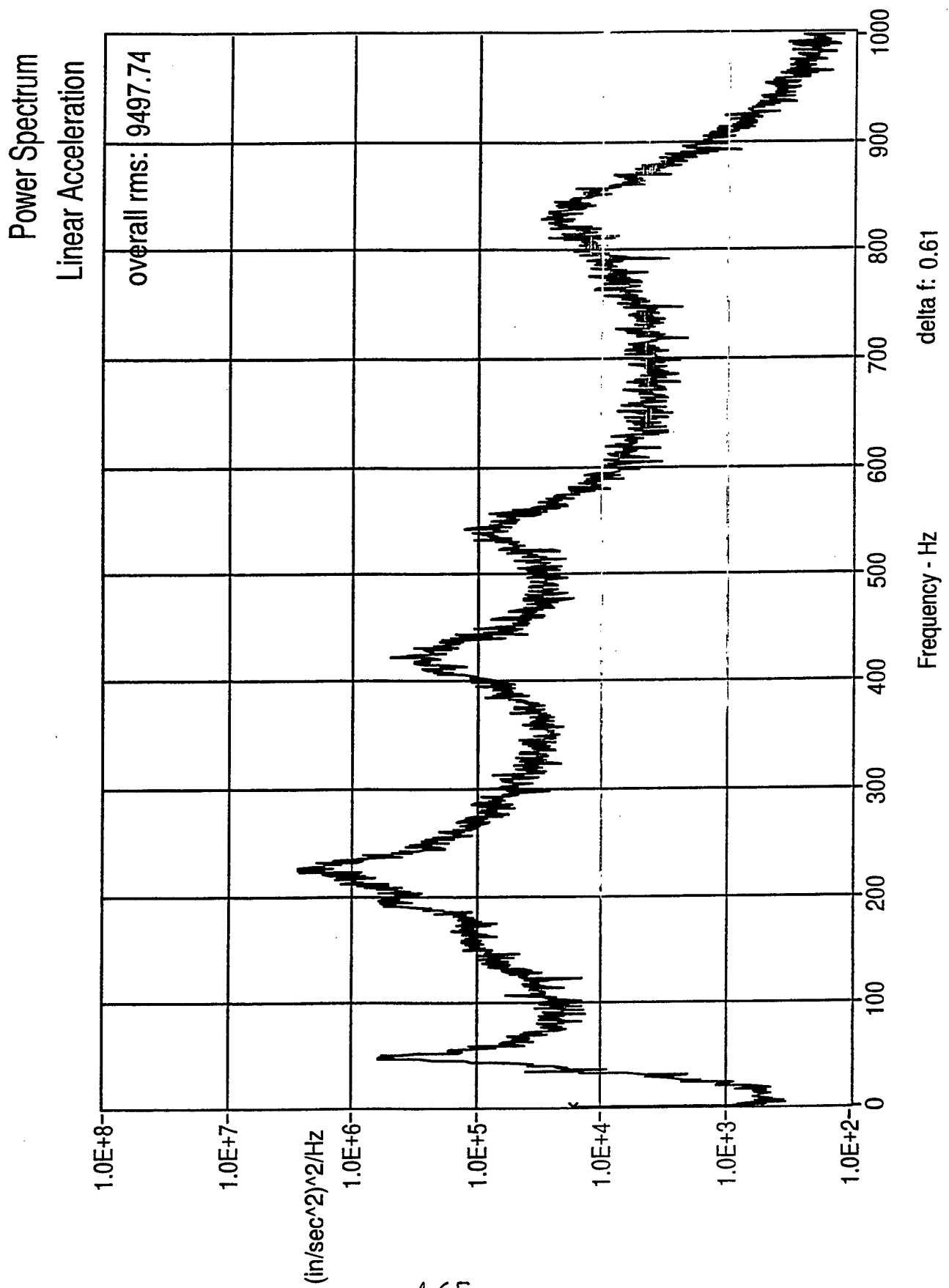
**(note, the dimensional graph s, (in/sec)²/hz are in a block, while the graphs
(g's)²/hz are in a second block. data is further blocked off by blowing
pressures, with beta variation within.**

F-15 TPN_2864: alpha=8 beta=-4 bp=0

Power Spectrum
Linear Acceleration



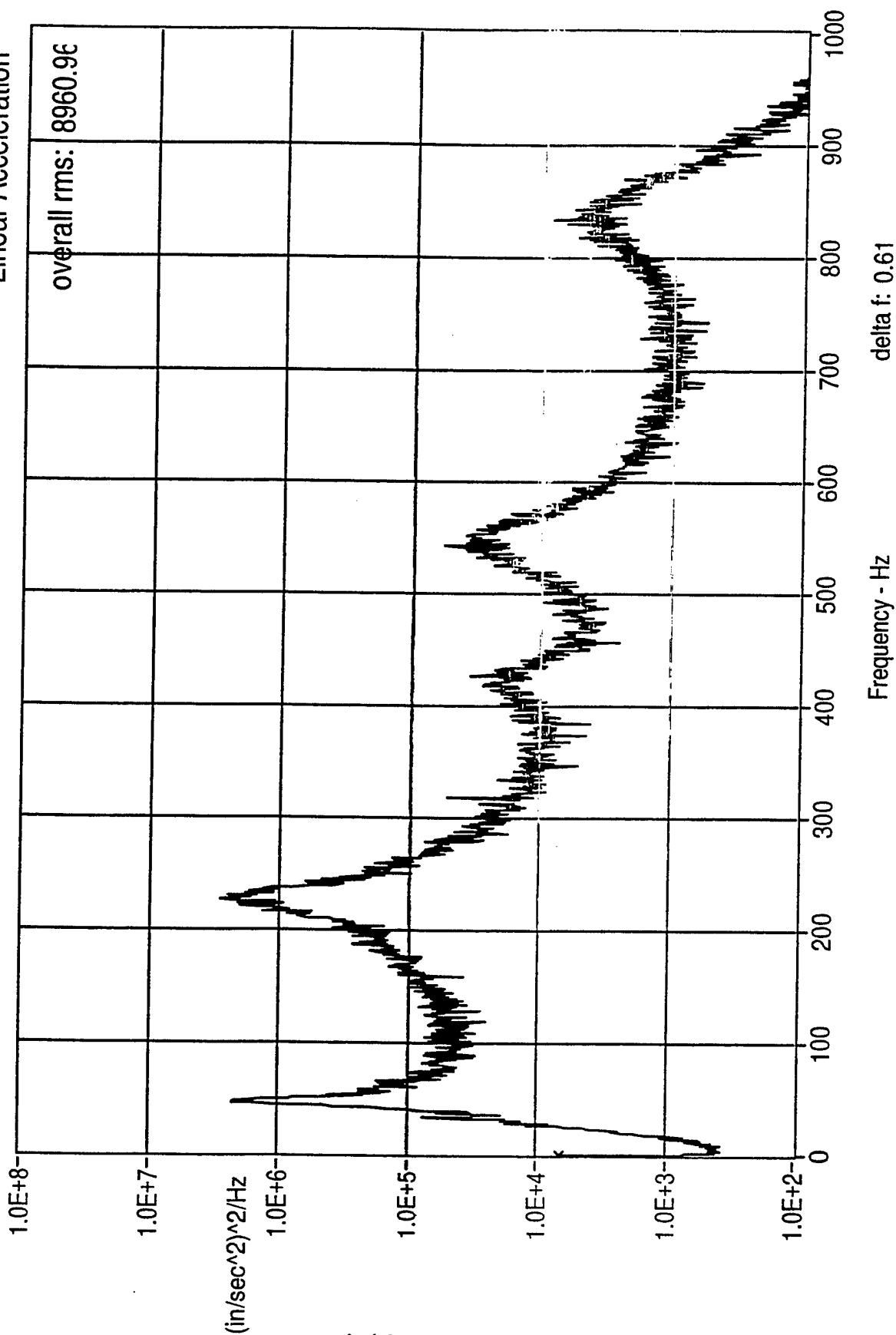
F-15 TPN_2872: alpha=24 beta=-4 bp=0



F-15 TPN_2874: alpha=32 beta=-4 bp=0

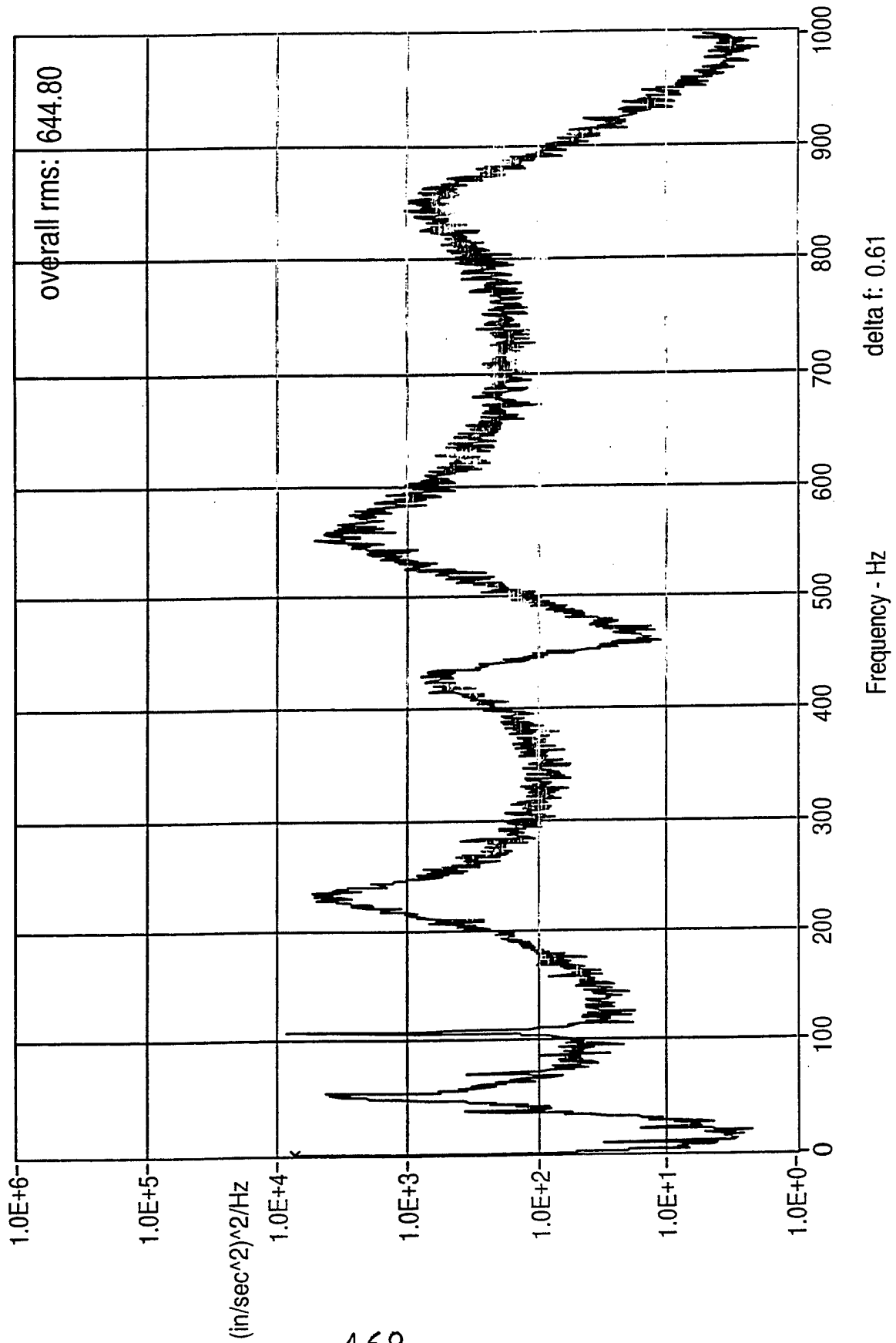
Power Spectrum

Linear Acceleration



F-15 TPN_2844: alpha=8 beta=0 bp=0

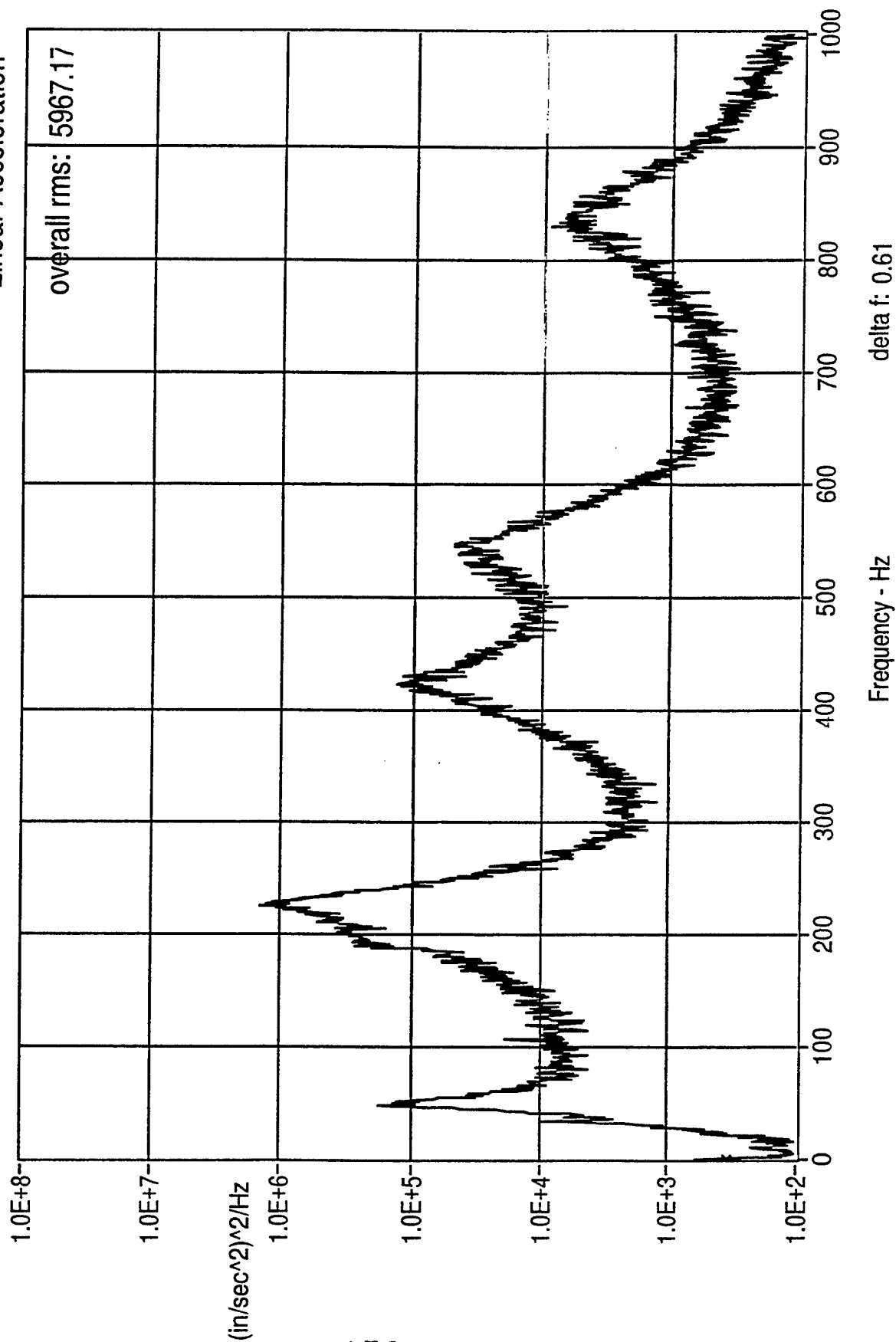
Power Spectrum
Linear Acceleration



F-15 TPN_2850: alpha=20 beta=0 bp=0

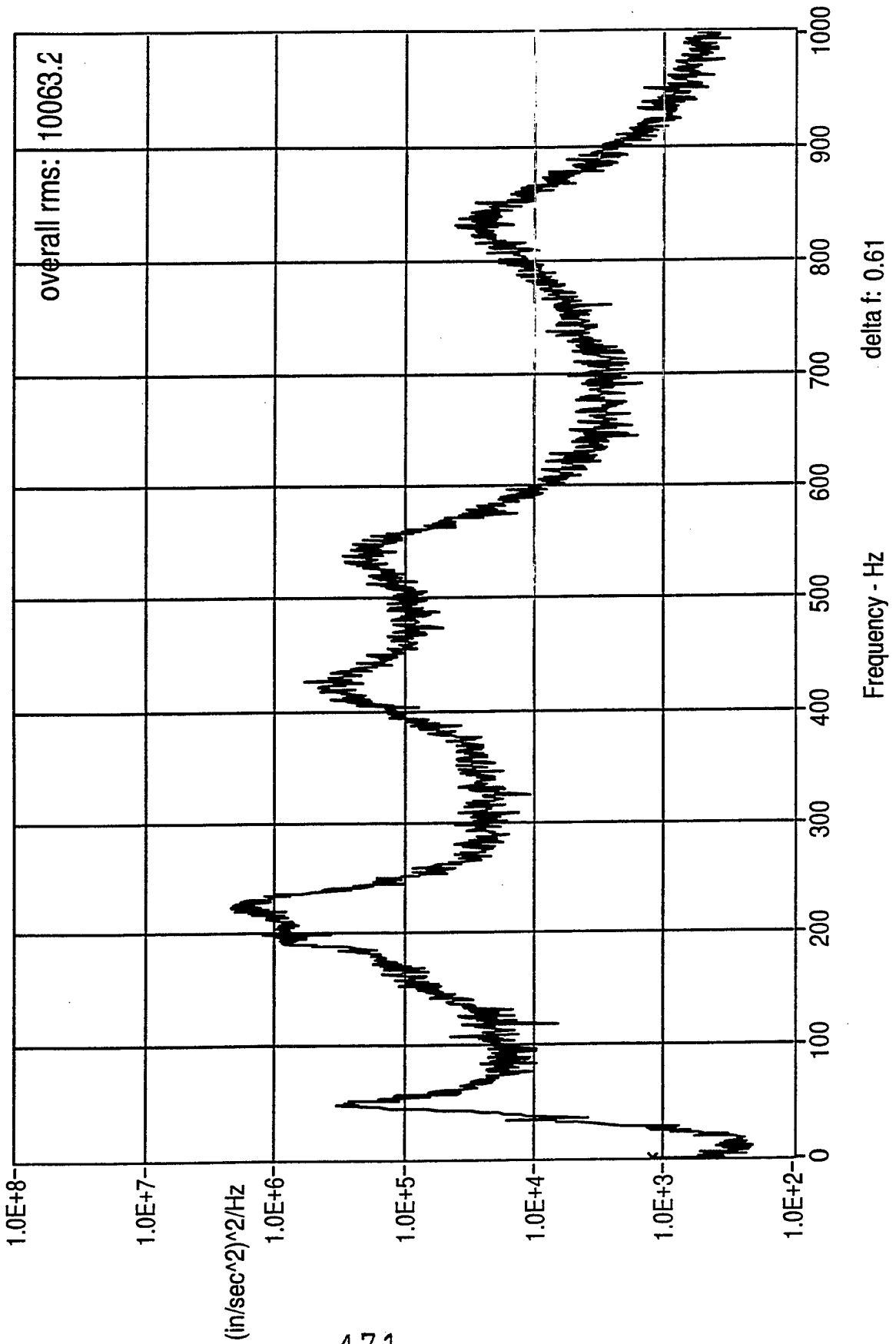
Power Spectrum

Linear Acceleration



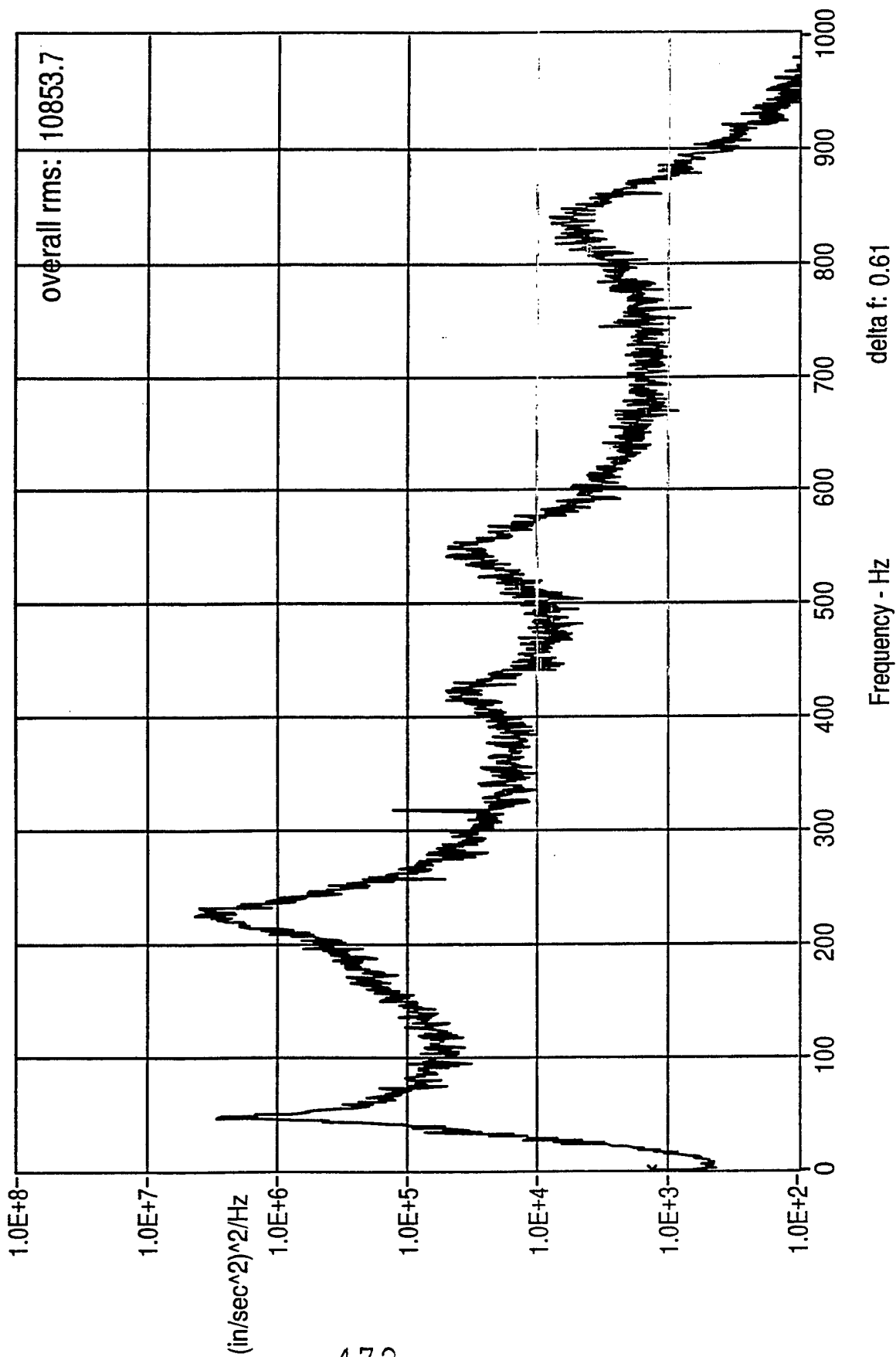
F-15 TPN_2852: alpha=24 beta=0 bp=0

Power Spectrum
Linear Acceleration

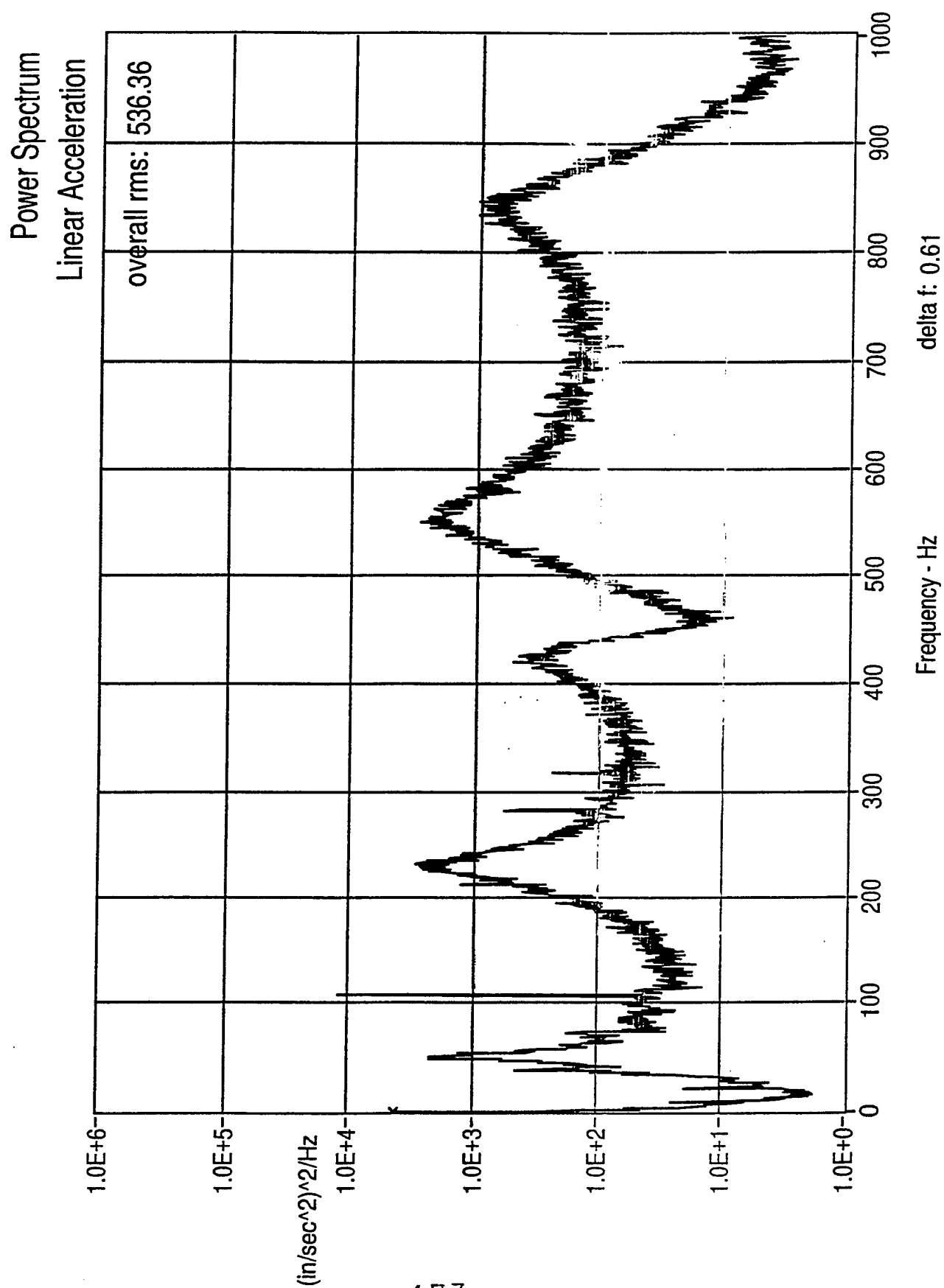


F-15 TPN_2854: alpha=32 beta=0 bp=0

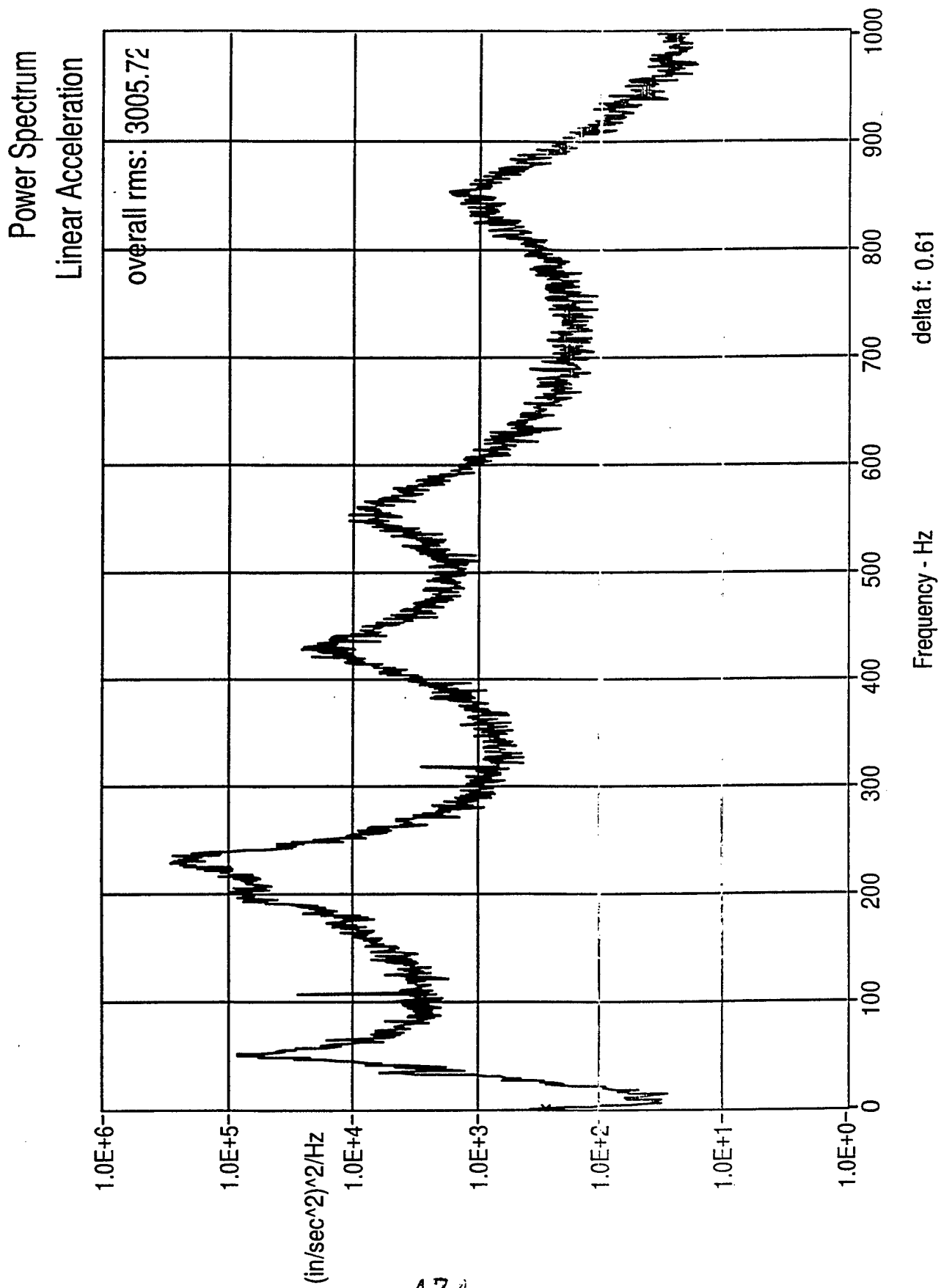
Power Spectrum
Linear Acceleration



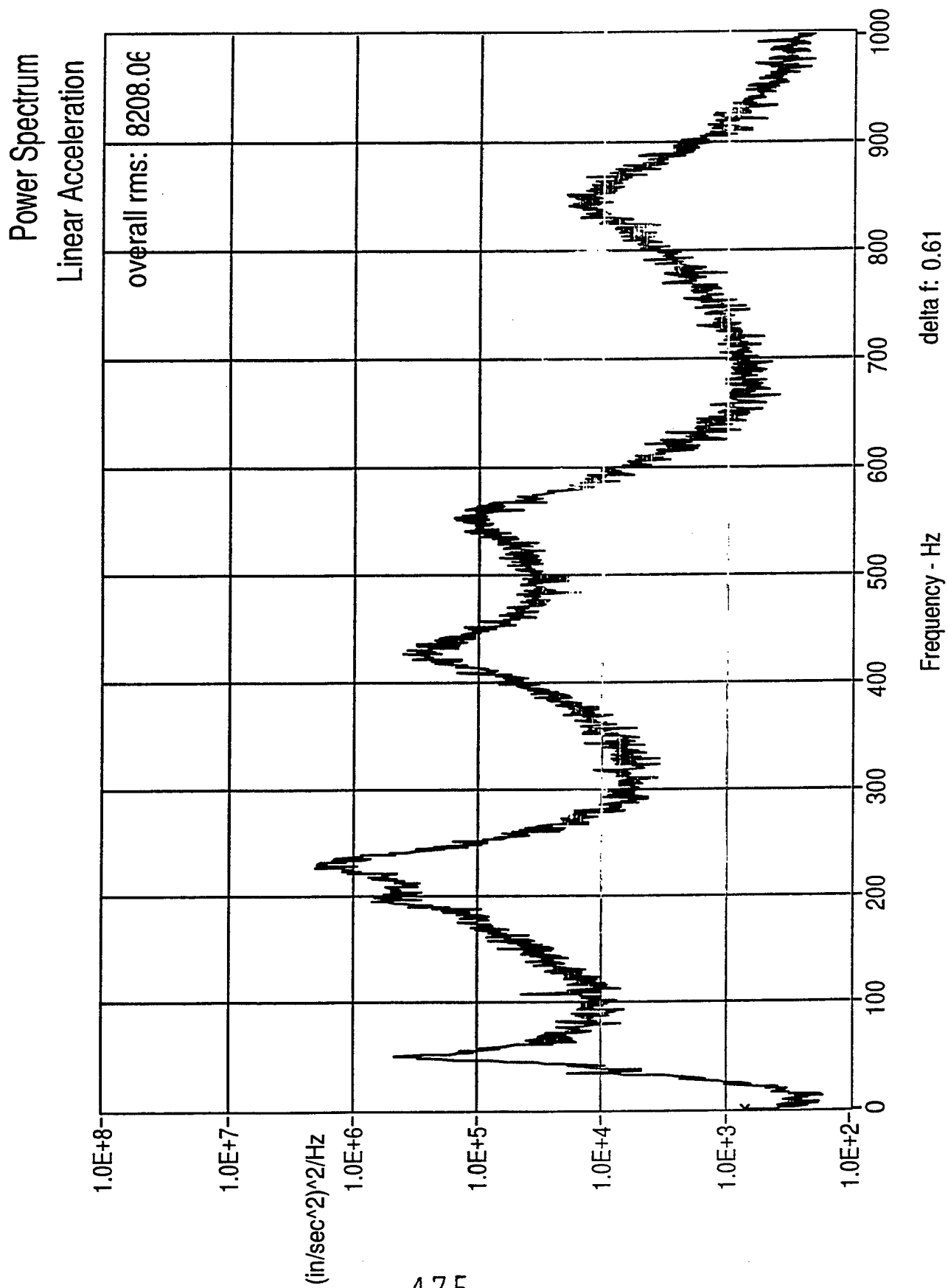
F-15 TPN_2918: alpha=8 beta=4 bp=0



F-15 TPN_2924: alpha=20 beta=4 bp=0

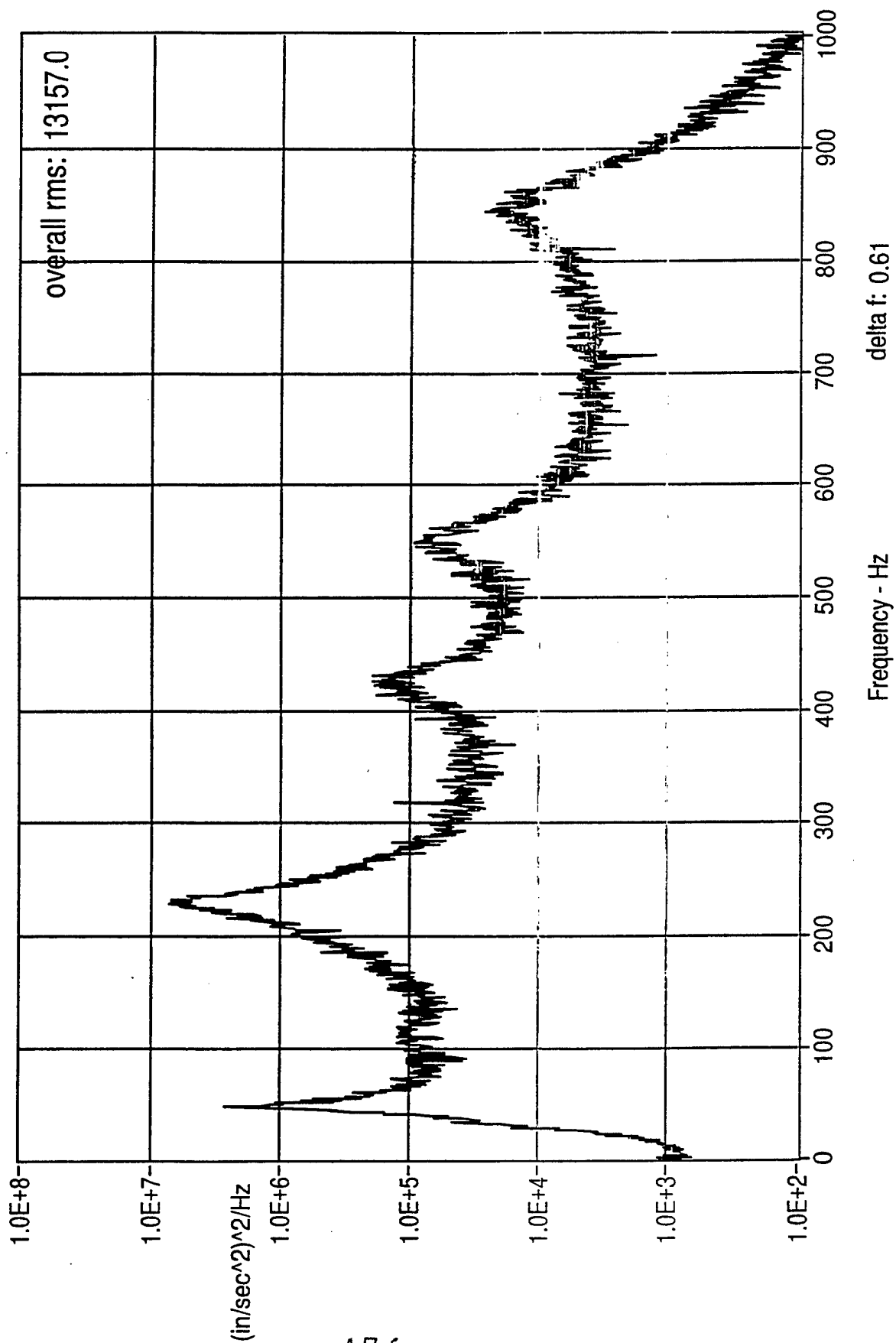


F-15 TPN_2926: alpha=24 beta=4 bp=0

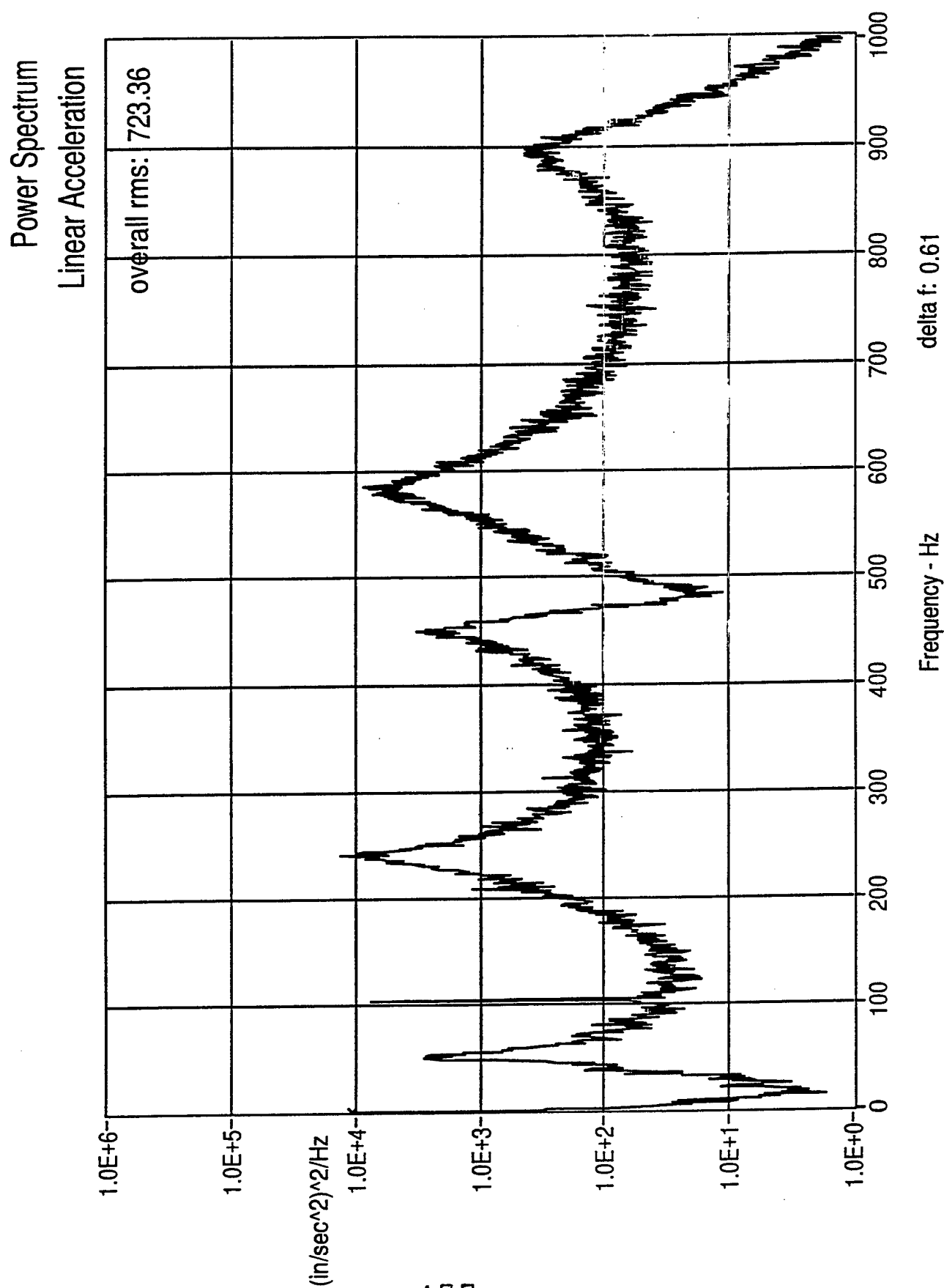


F-15 TPN_2928: alpha=32 beta=4 bp=0

Power Spectrum
Linear Acceleration



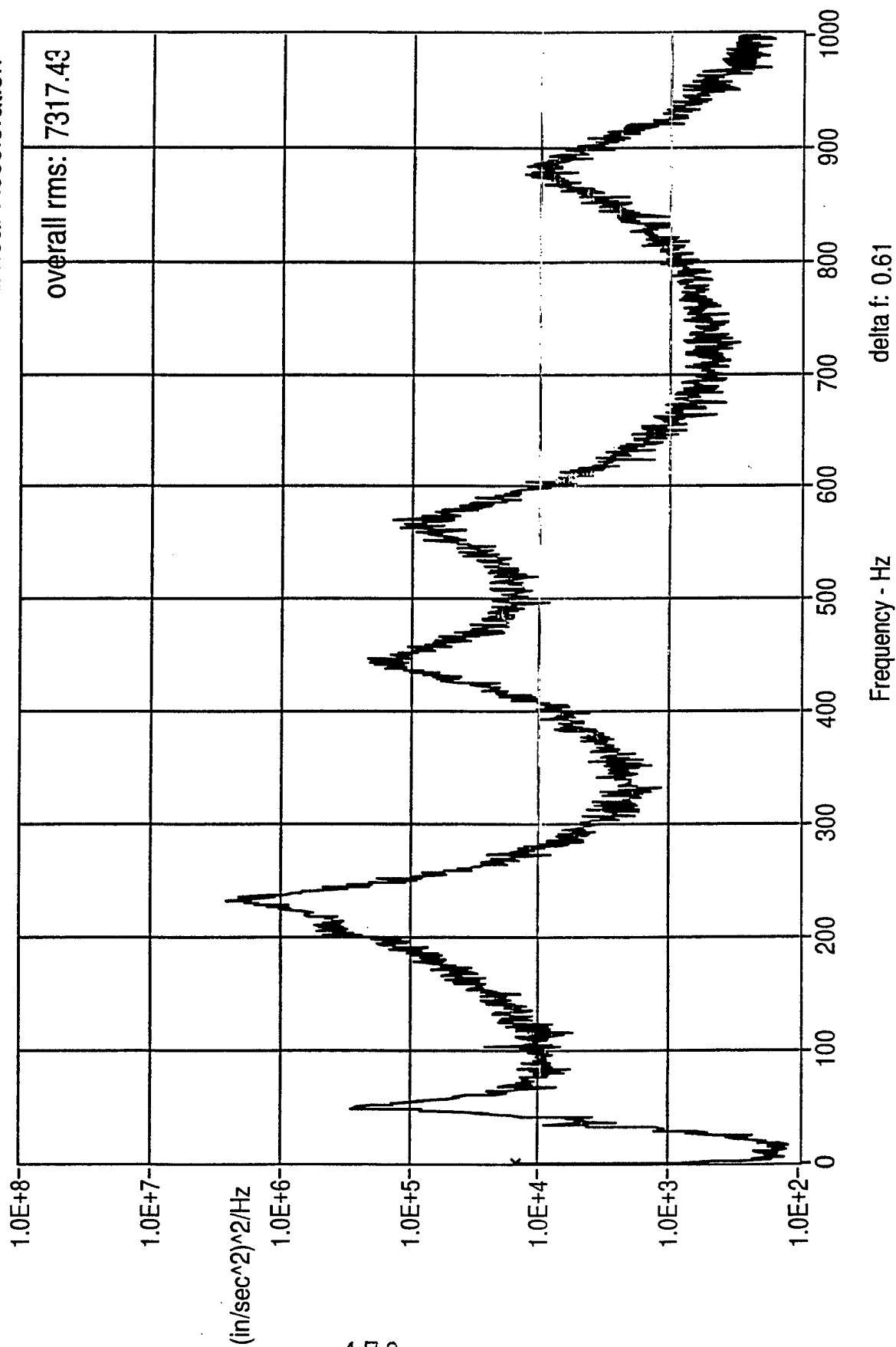
F-15 TPN_3369: alpha=8 beta=-4 bp=45



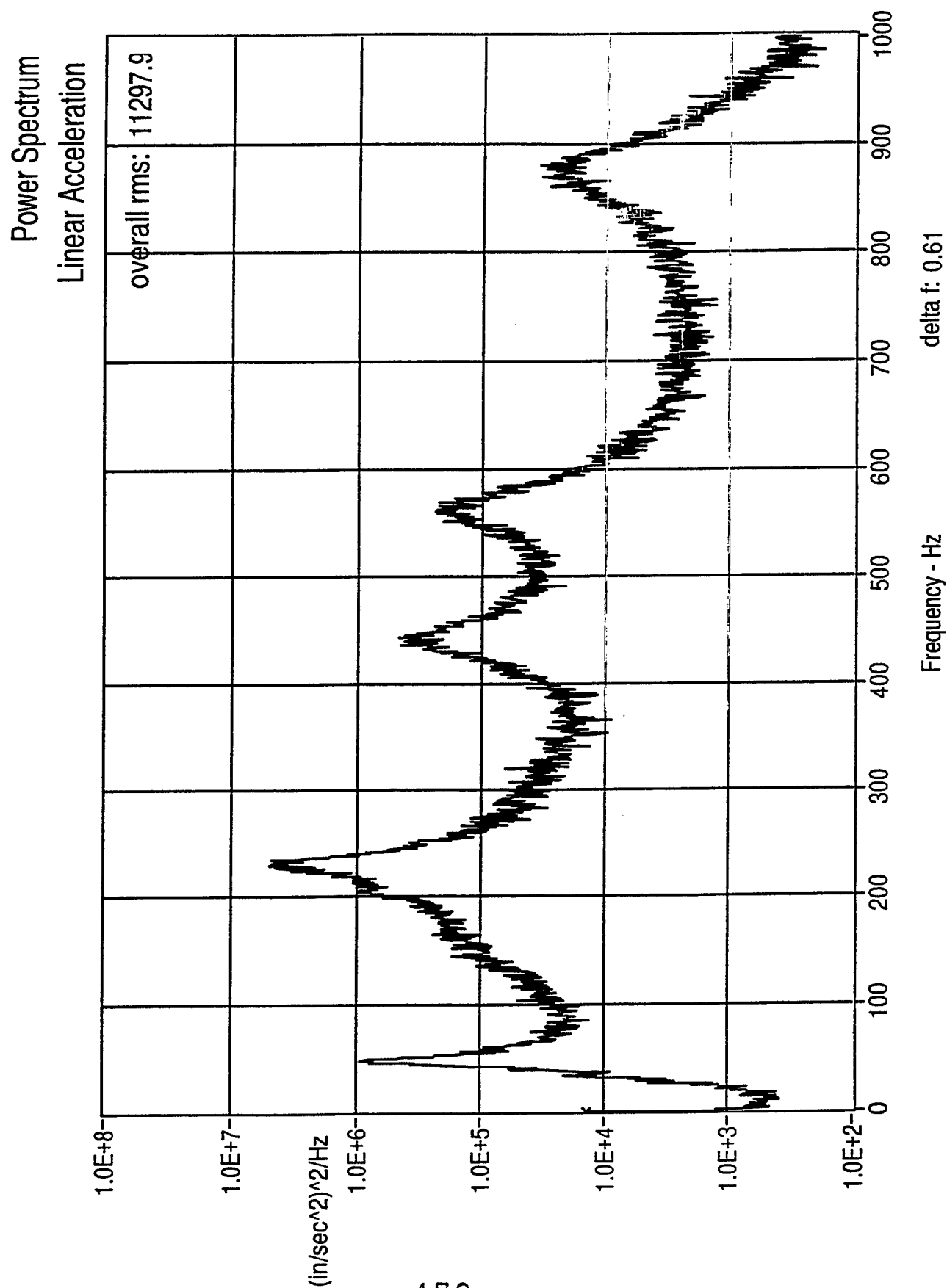
F-15 TPN_3375: alpha=20 beta=-4 bp=45

Power Spectrum

Linear Acceleration

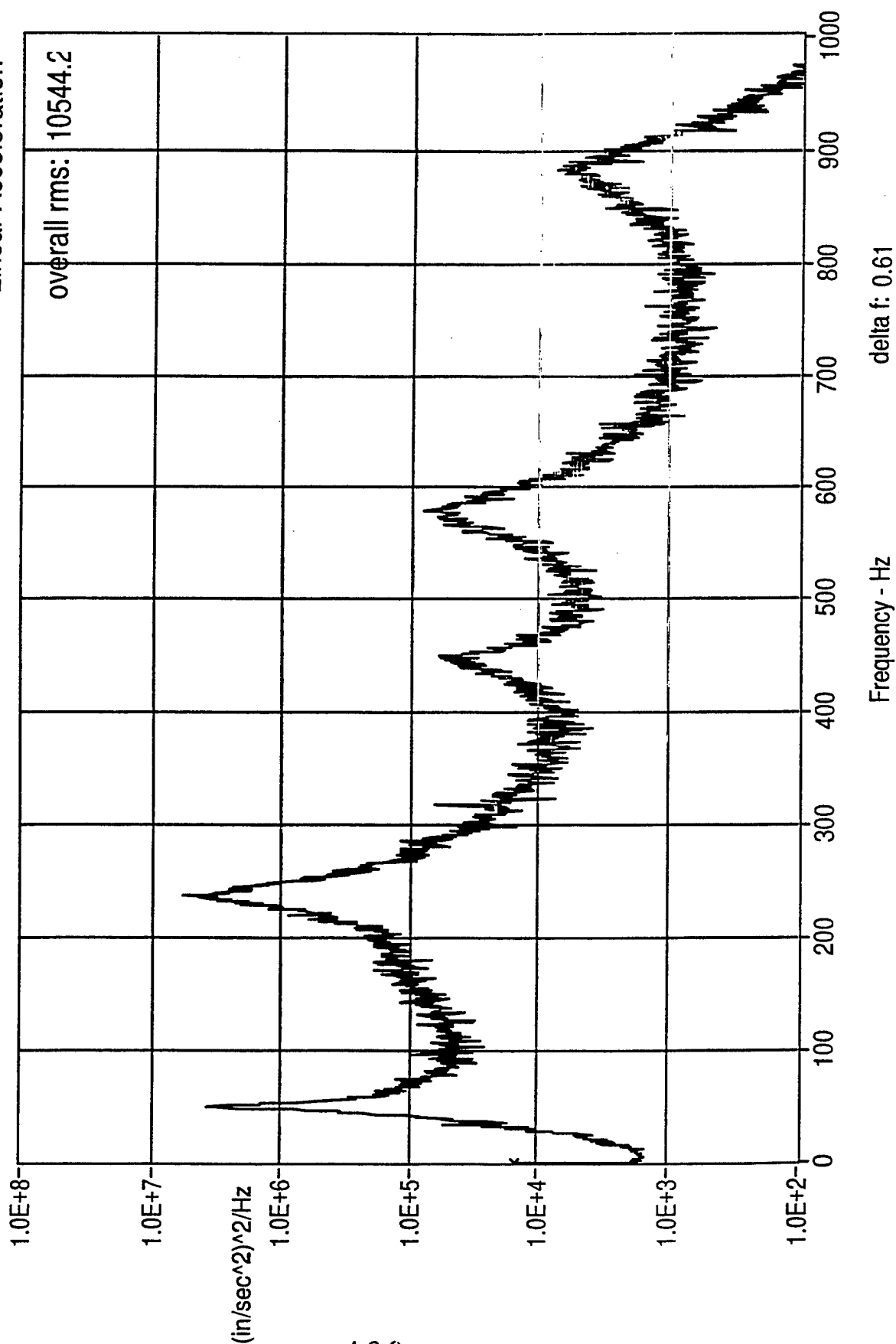


F-15 TPN_3377: alpha=24 beta=-4 bp=45

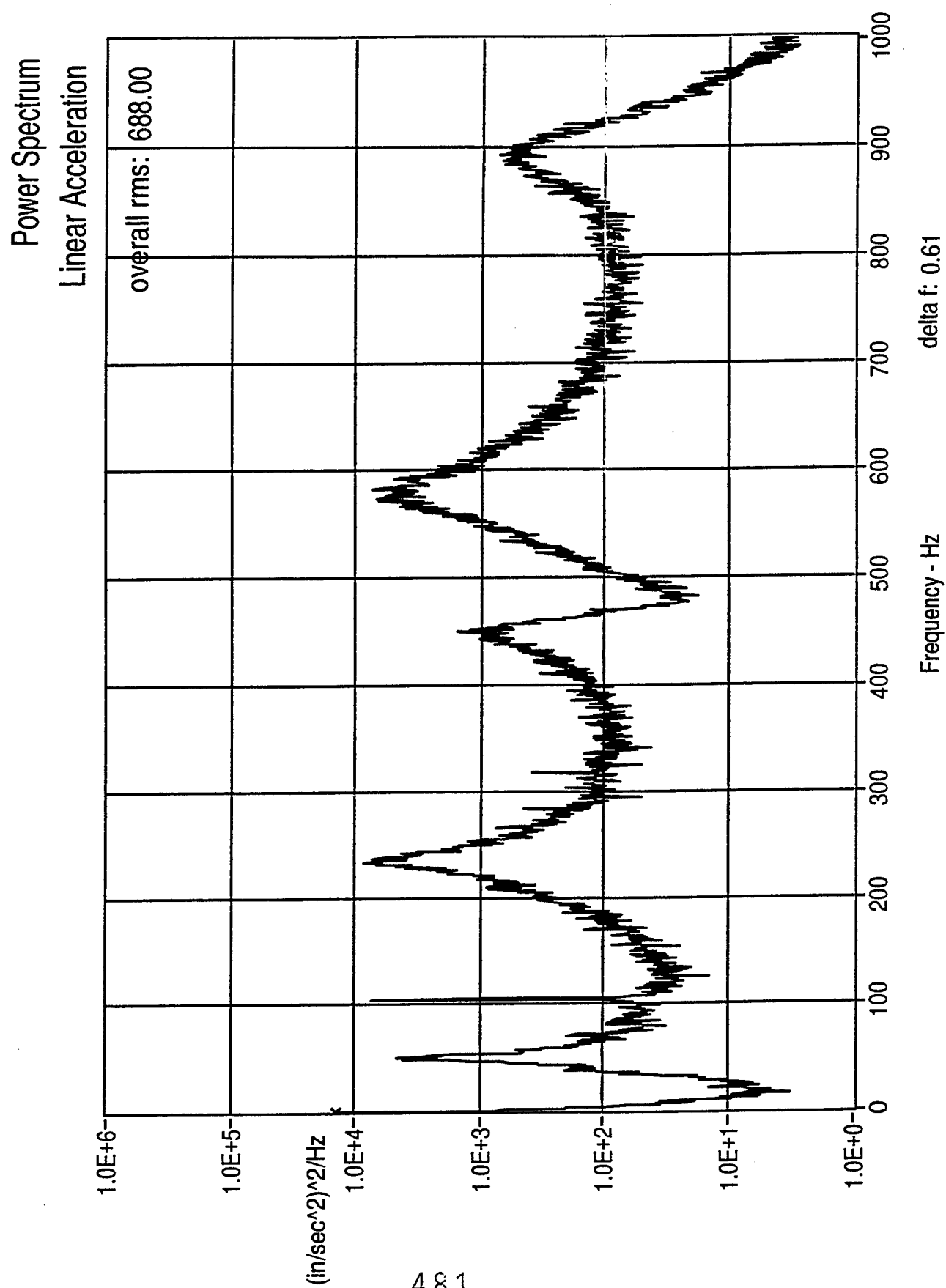


F-15 TPN_3379: alpha=32 beta=-4 bp=45

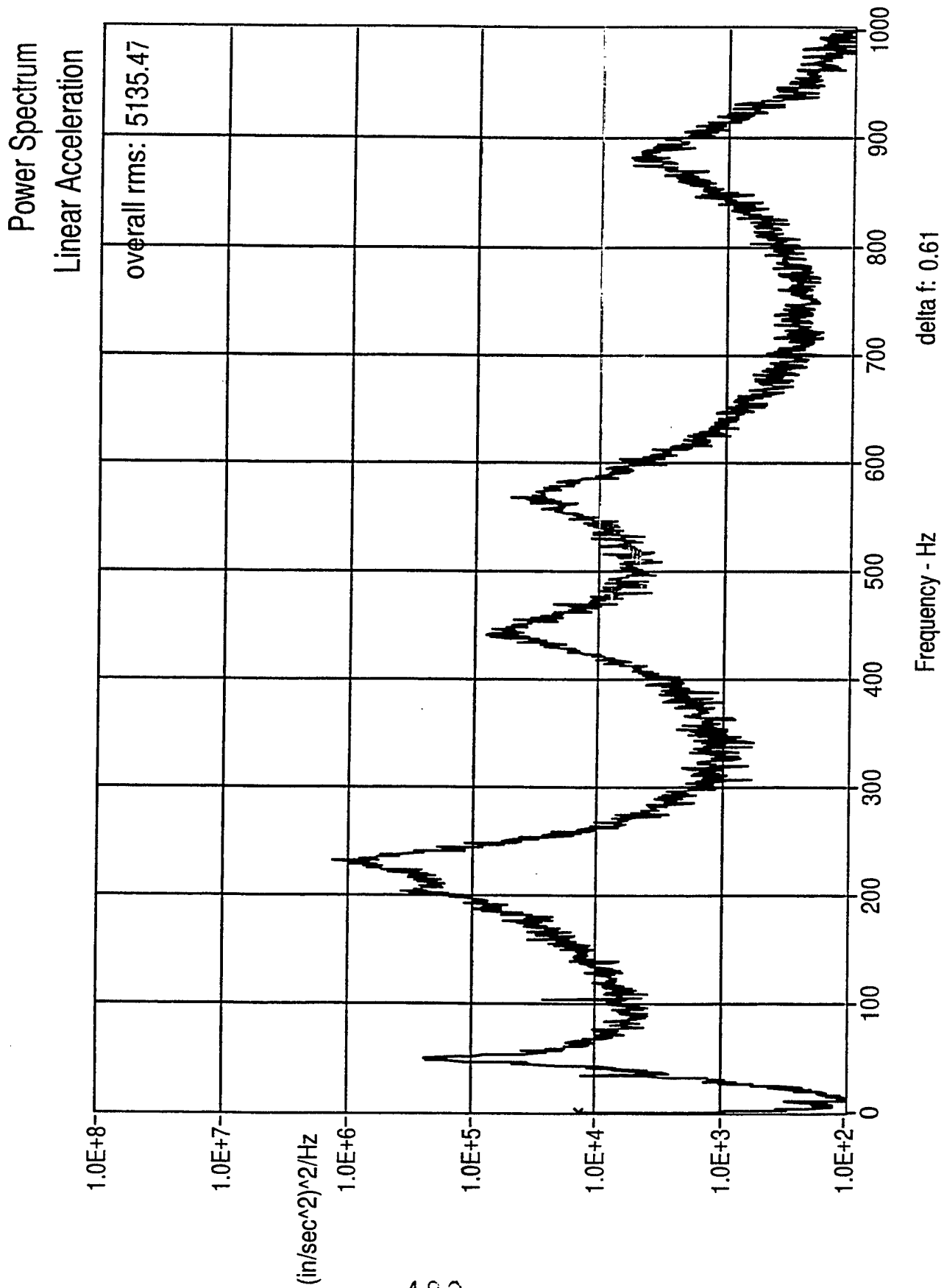
Power Spectrum
Linear Acceleration



F-15 TPN_3333: alpha=8 beta=0 bp=45

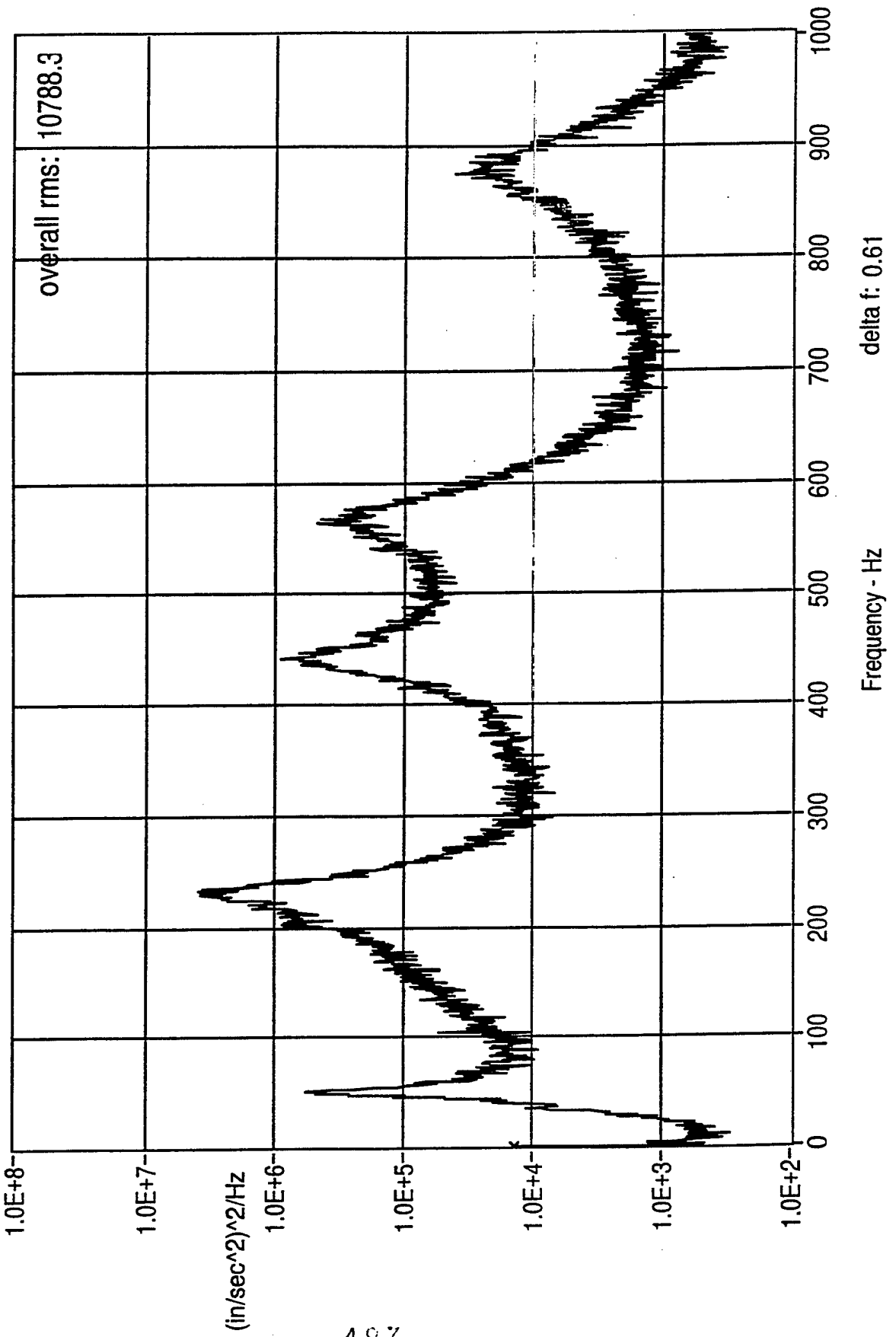


F-15 TPN_3339: alpha=20 beta=0 bp=45

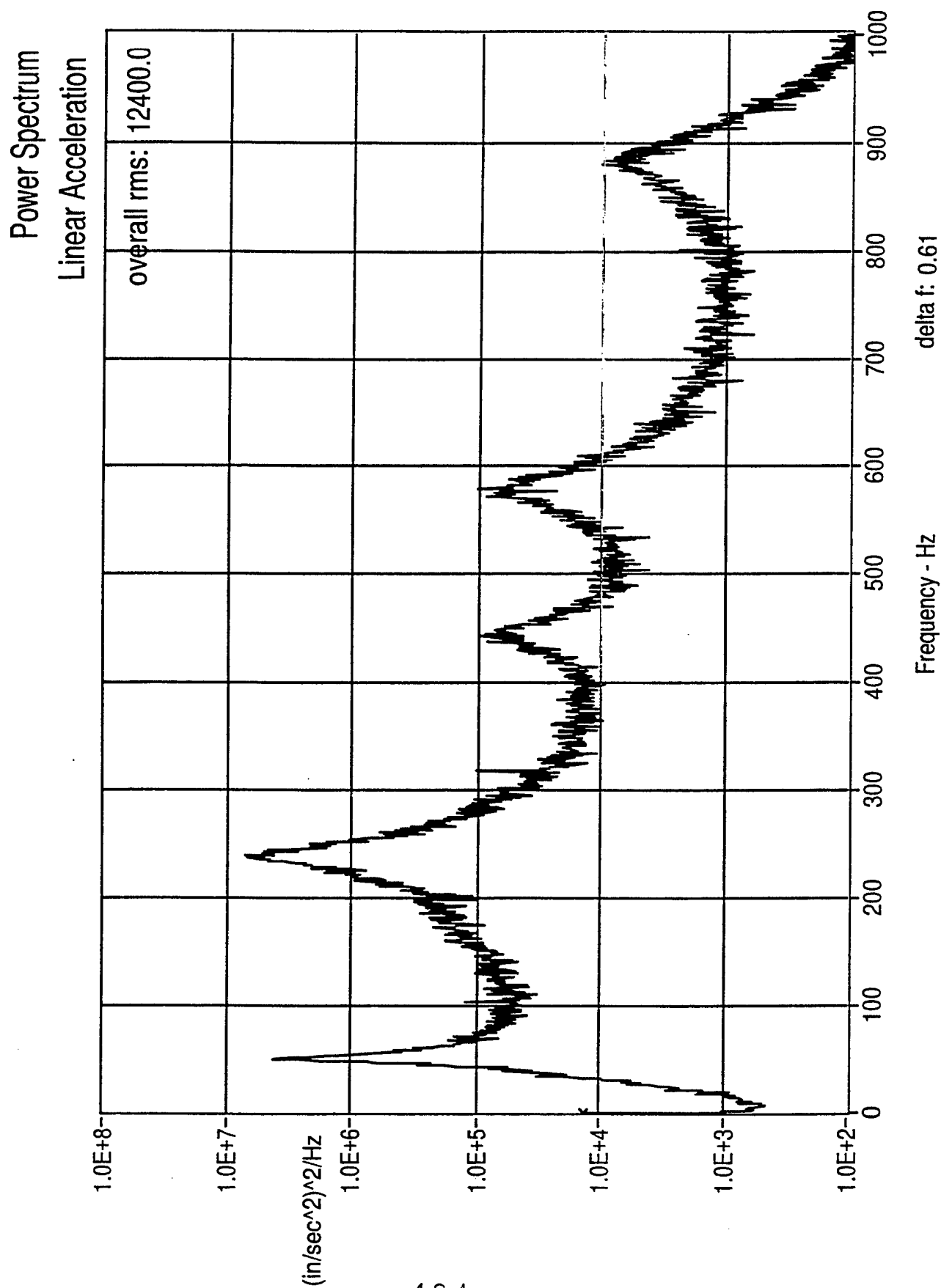


F-15 TPN_3341: alpha=24 beta=0 bp=45

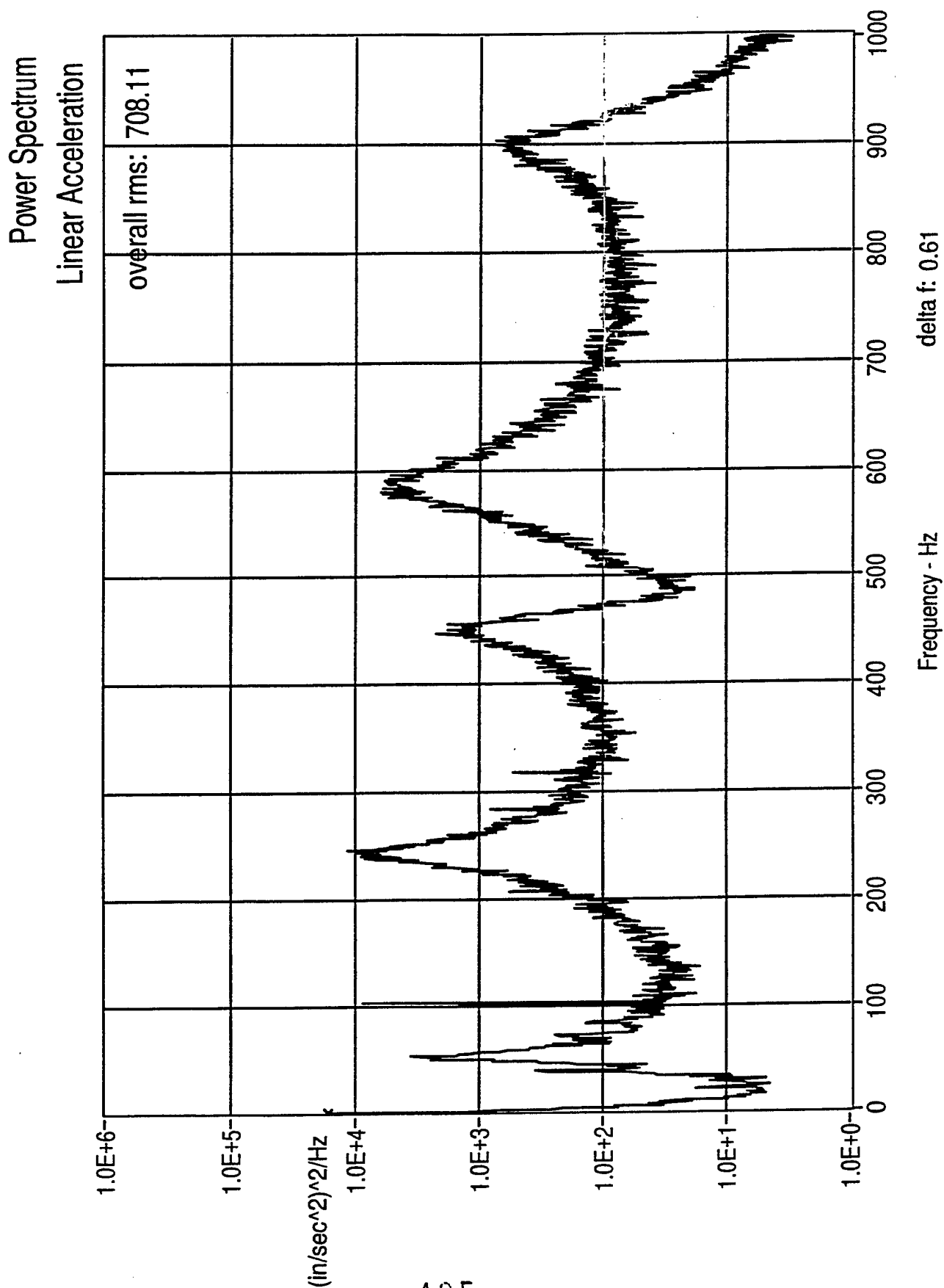
Power Spectrum
Linear Acceleration



F-15 TPN_3343: alpha=32 beta=0 bp=45

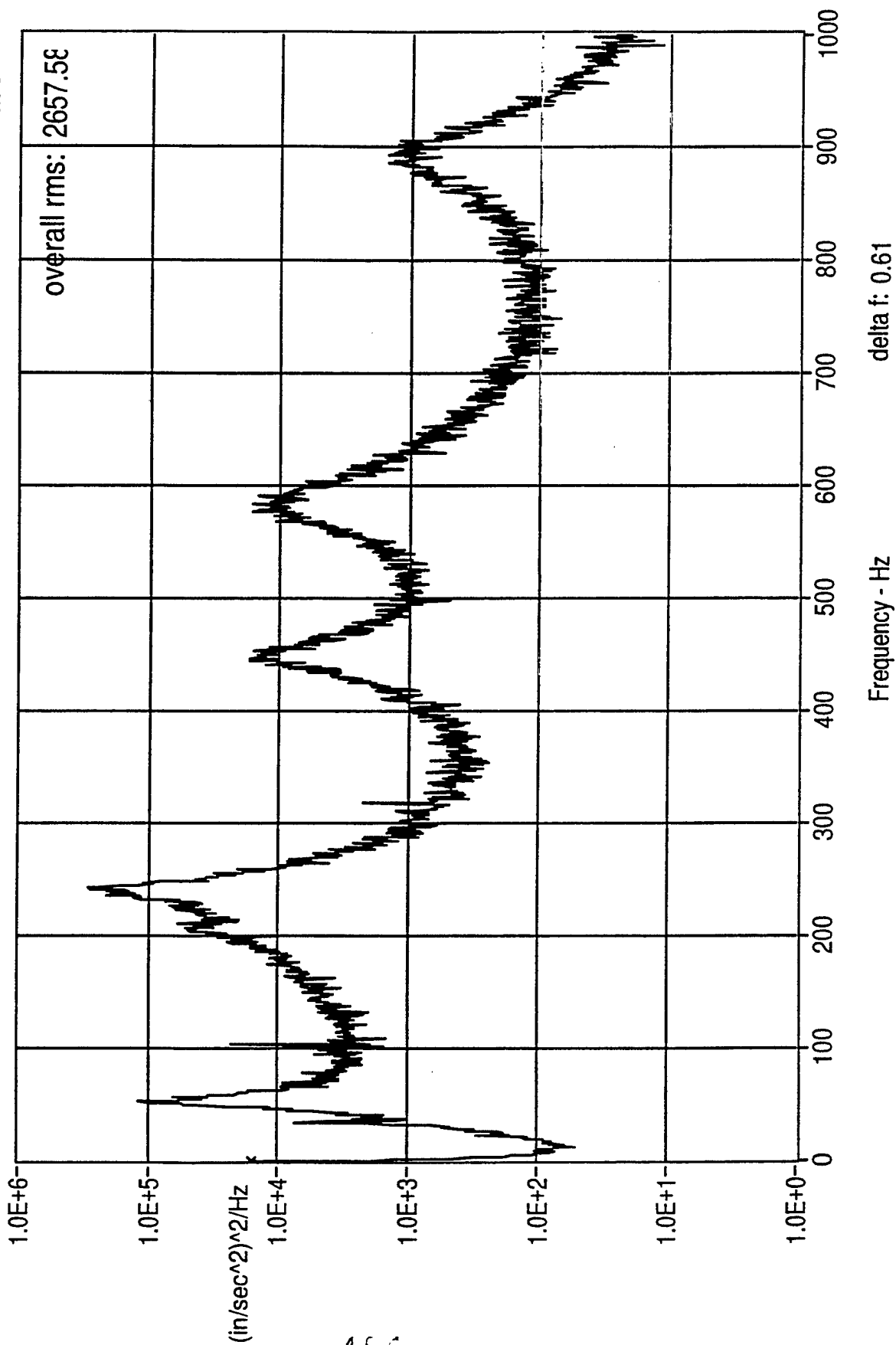


F-15 TPN_3351: alpha=8 beta=4 bp=45

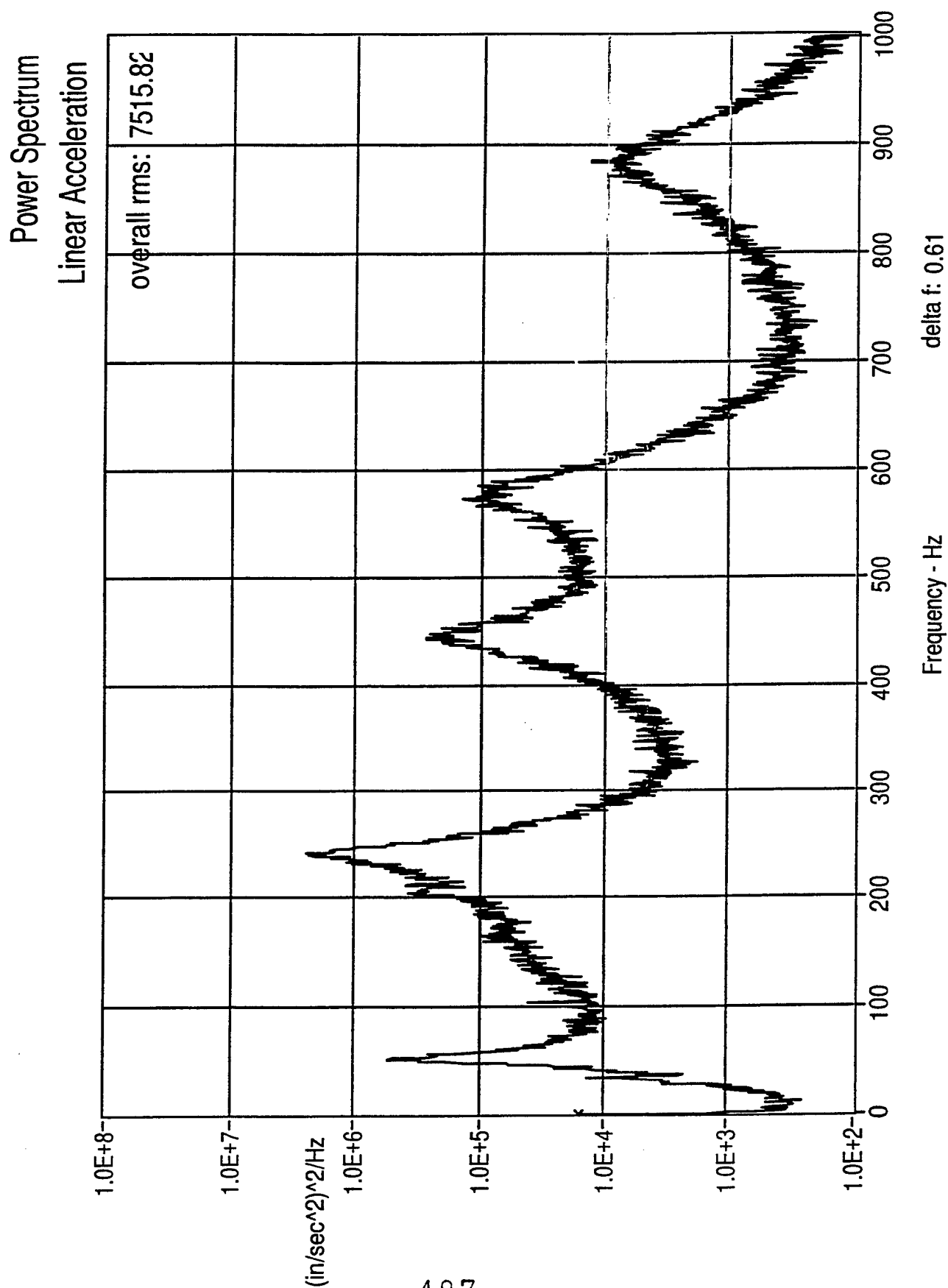


F-15 TPN_3357: alpha=20 beta=4 bp=45

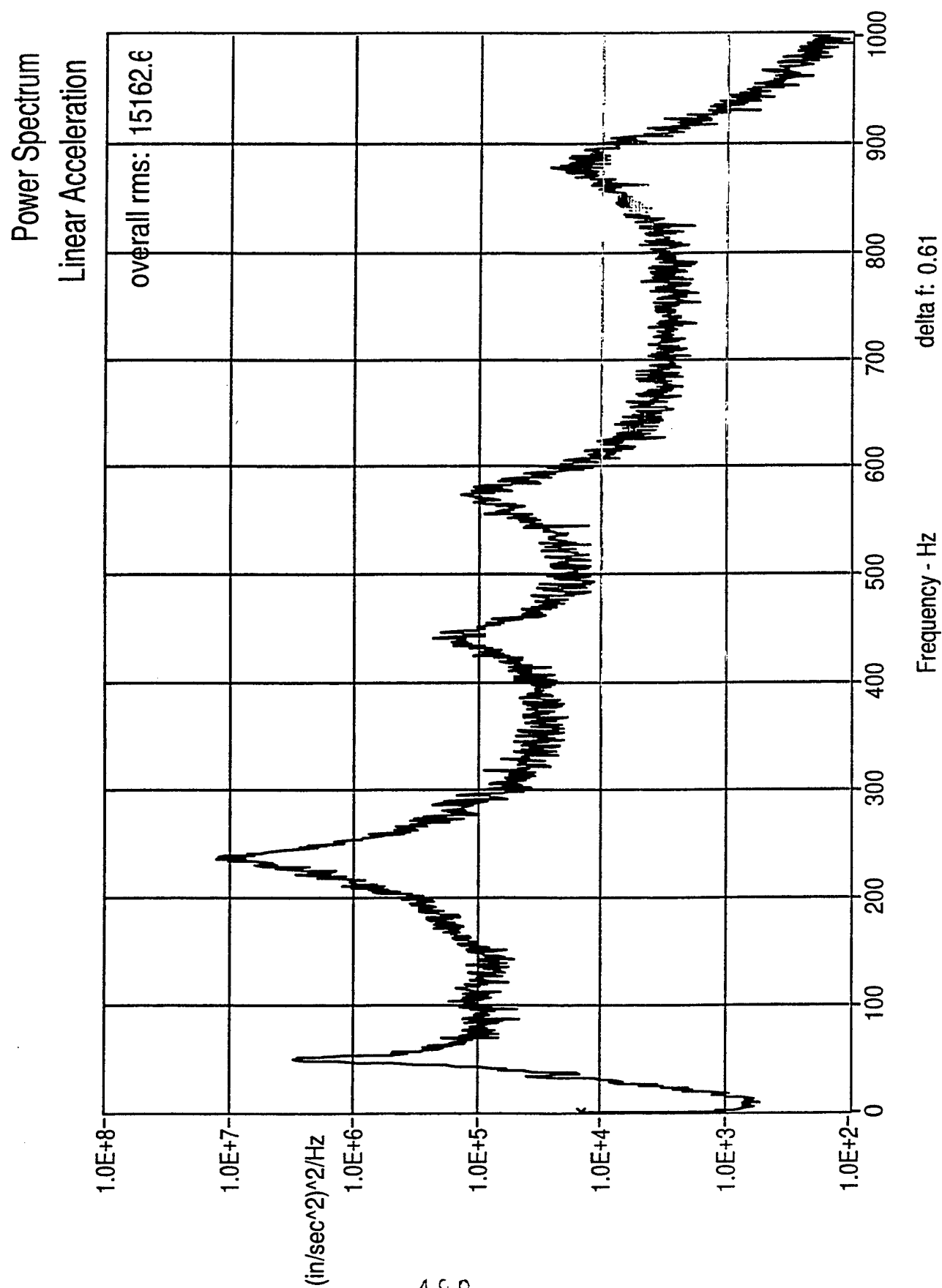
Power Spectrum
Linear Acceleration



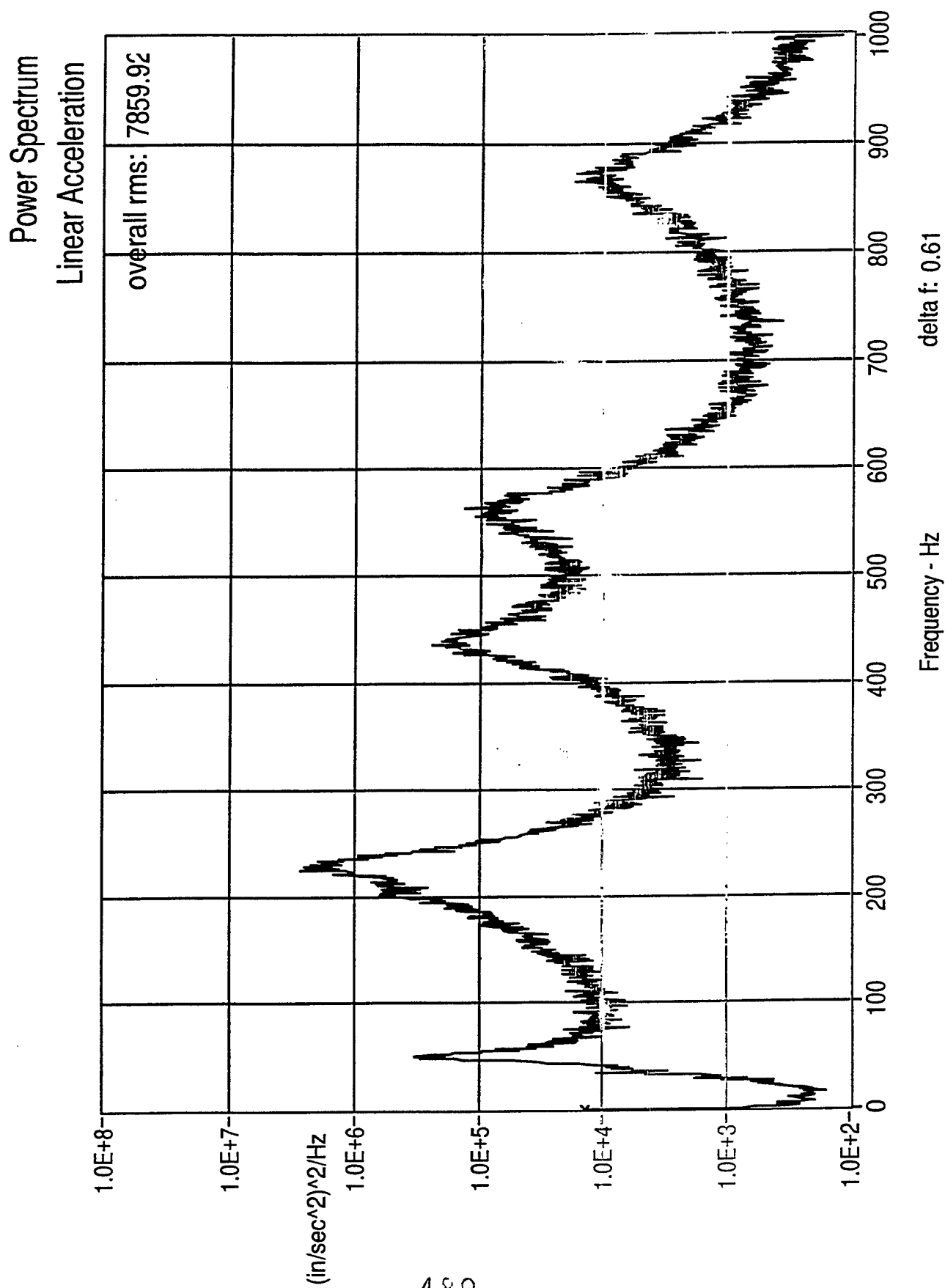
F-15 TPN_3359: alpha=24 beta=4 bp=45



F-15 TPN_3361: alpha=32 beta=4 bp=45

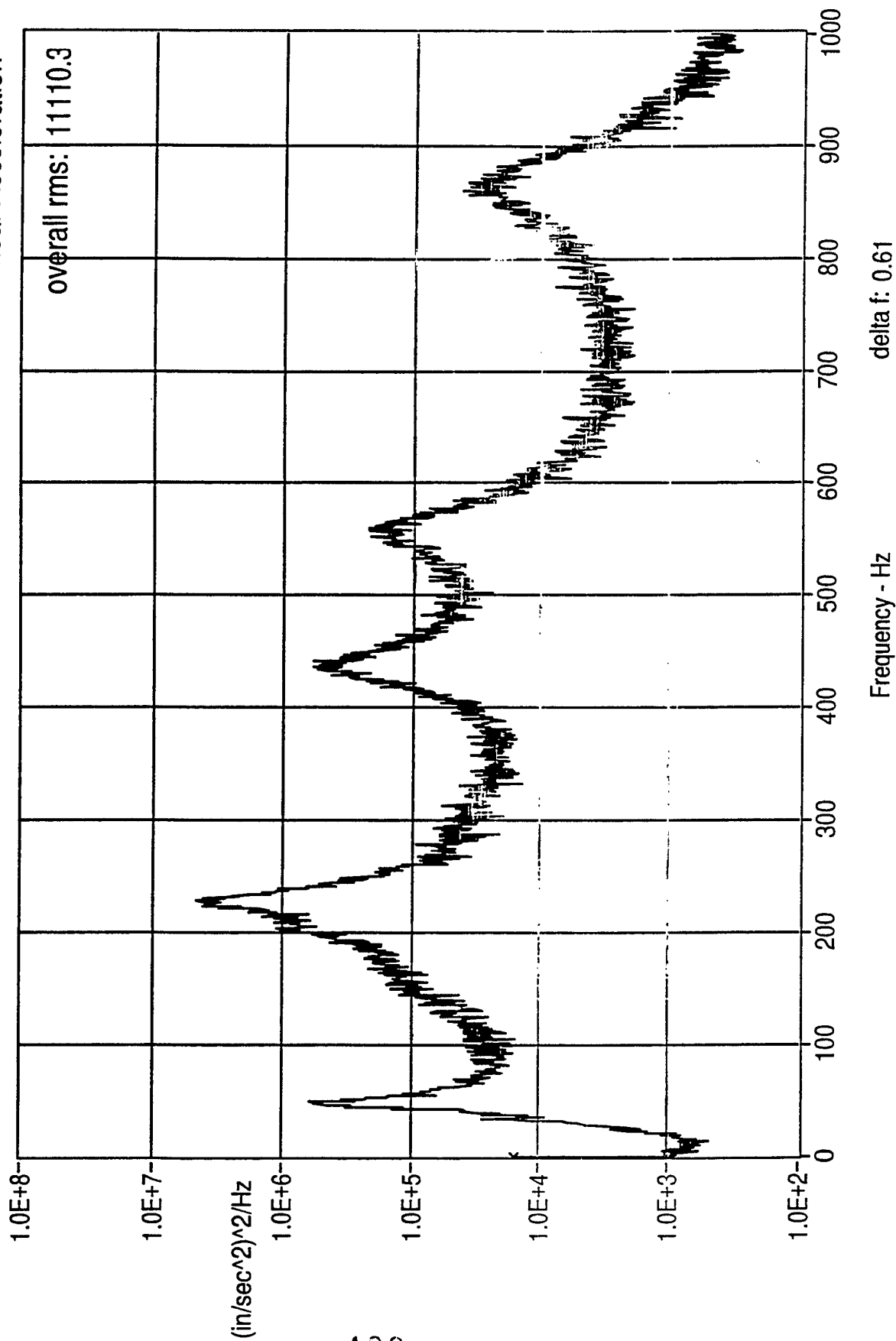


F-15 TPN_3034: alpha=20 beta=-4 bp=65



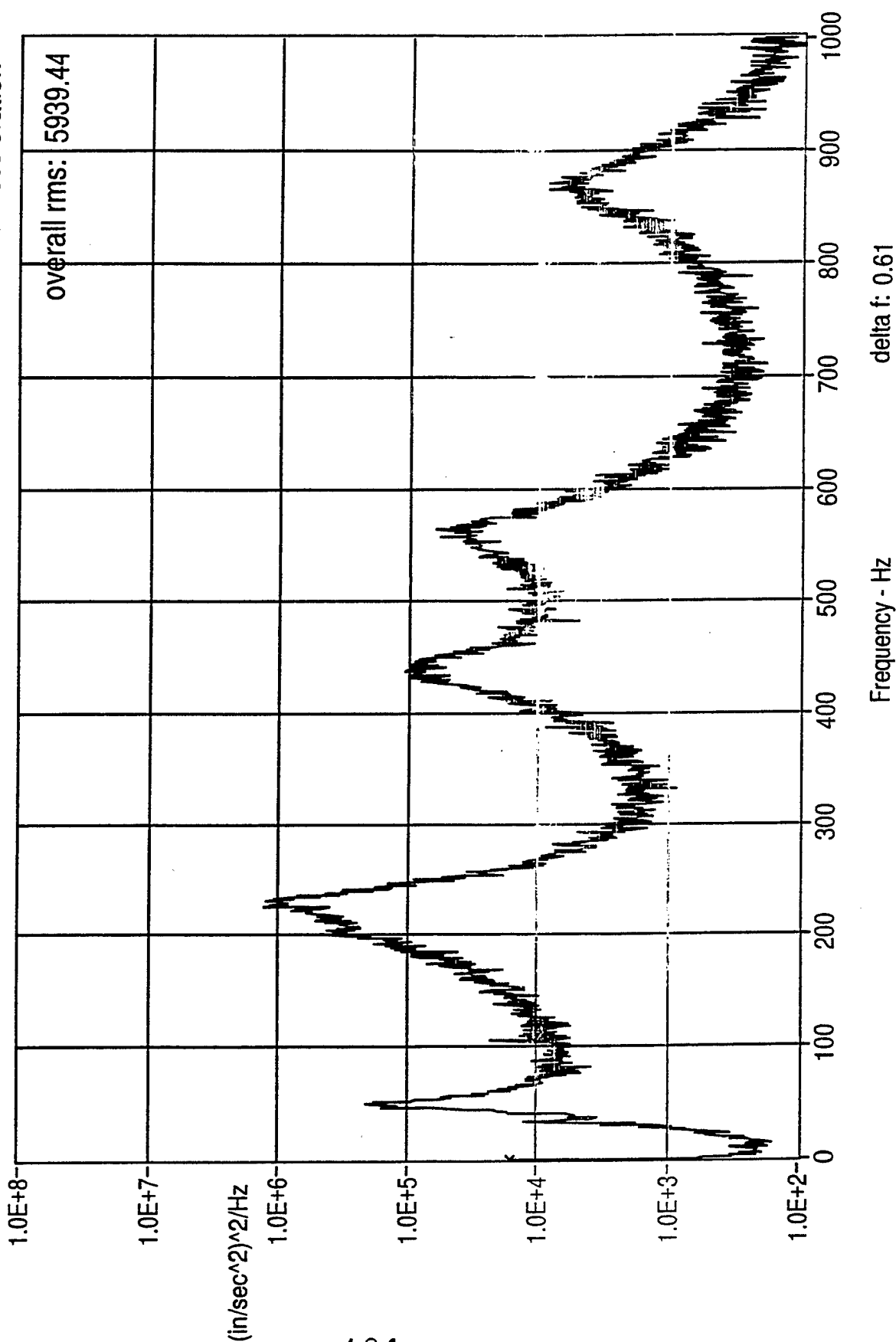
F-15 TPN_3036: alpha=24 beta=-4 bp=65

Power Spectrum
Linear Acceleration

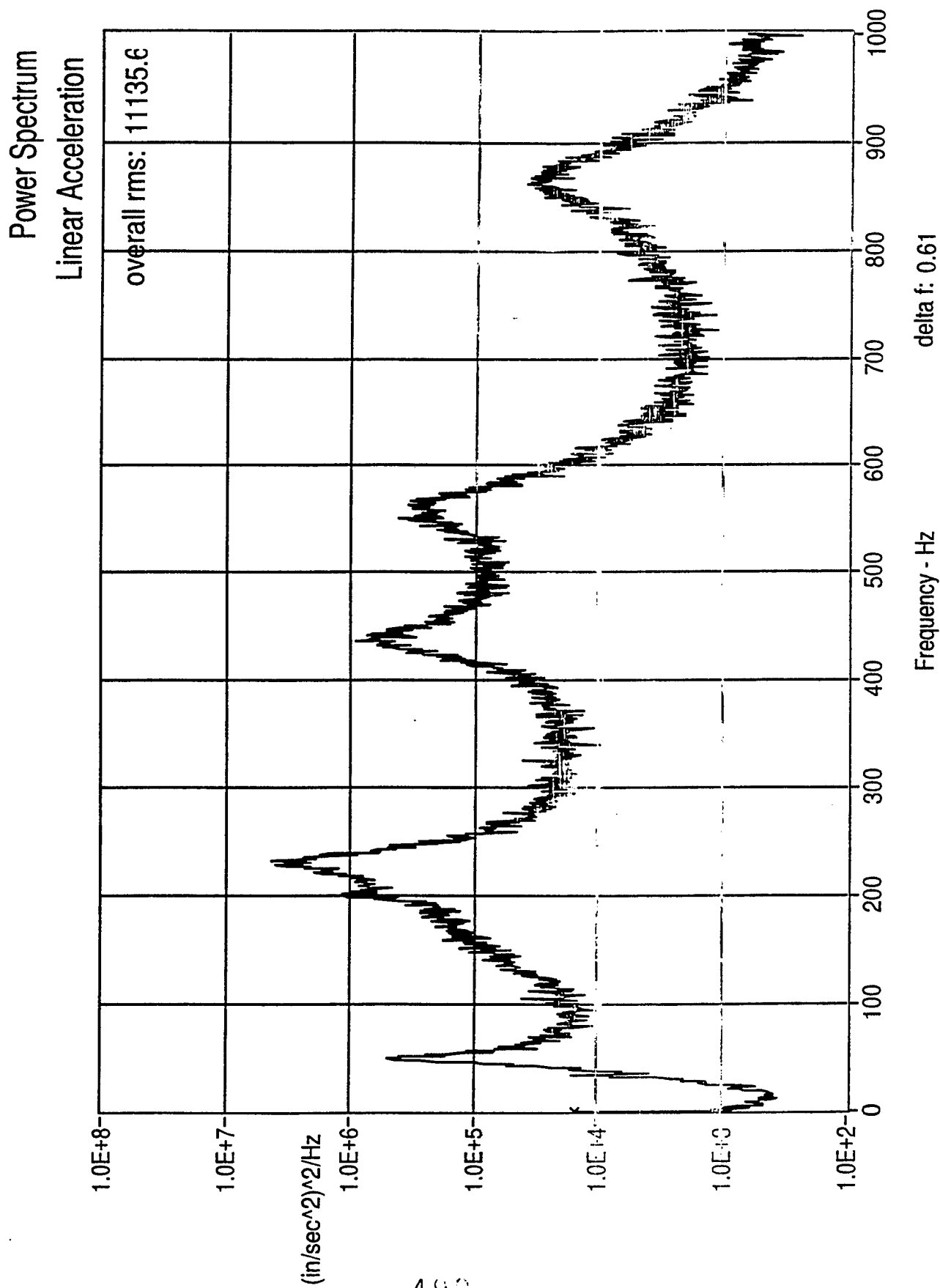


F-15 TPN_3040: alpha=20 beta=0 bp=65

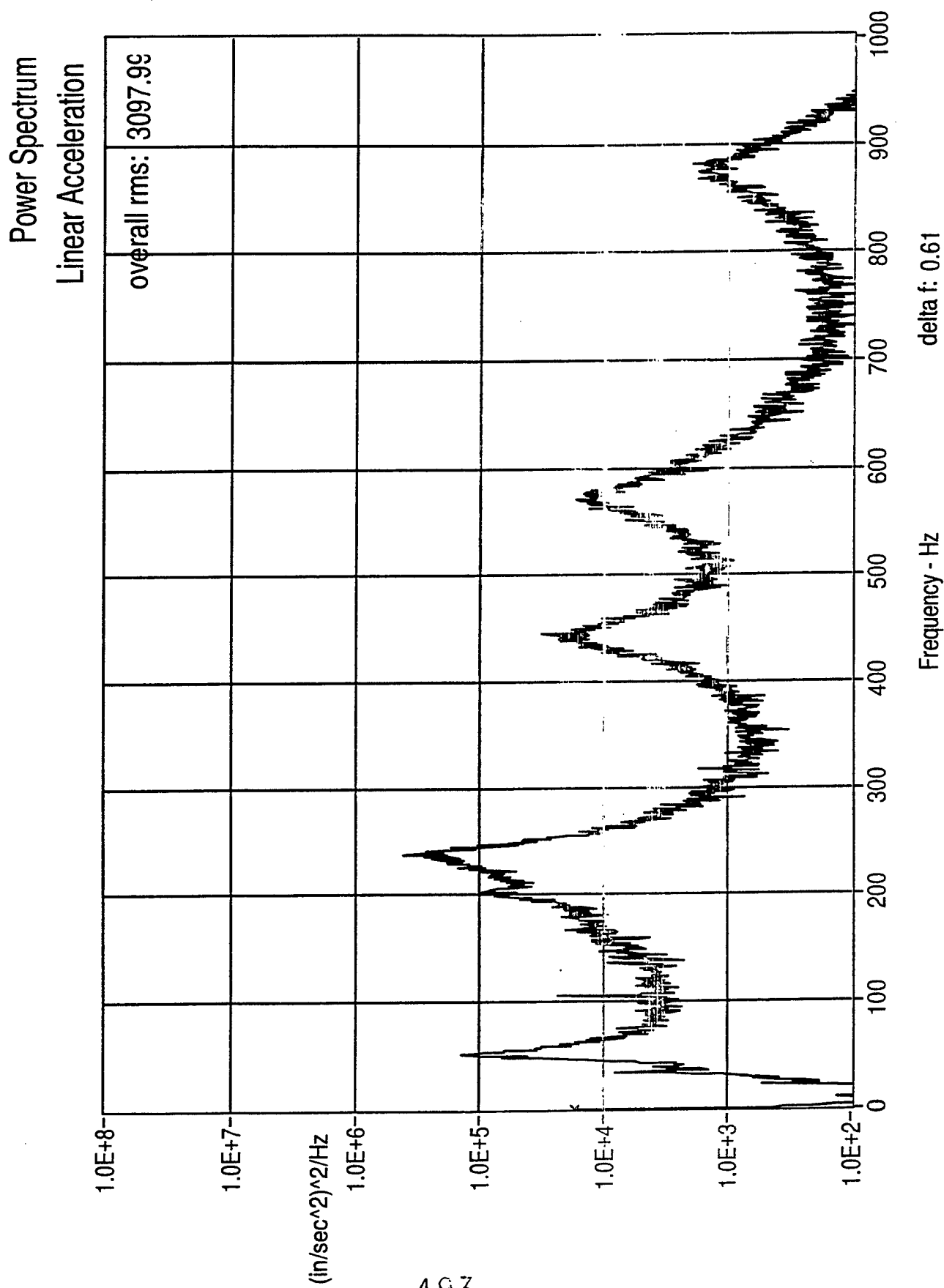
Power Spectrum
Linear Acceleration



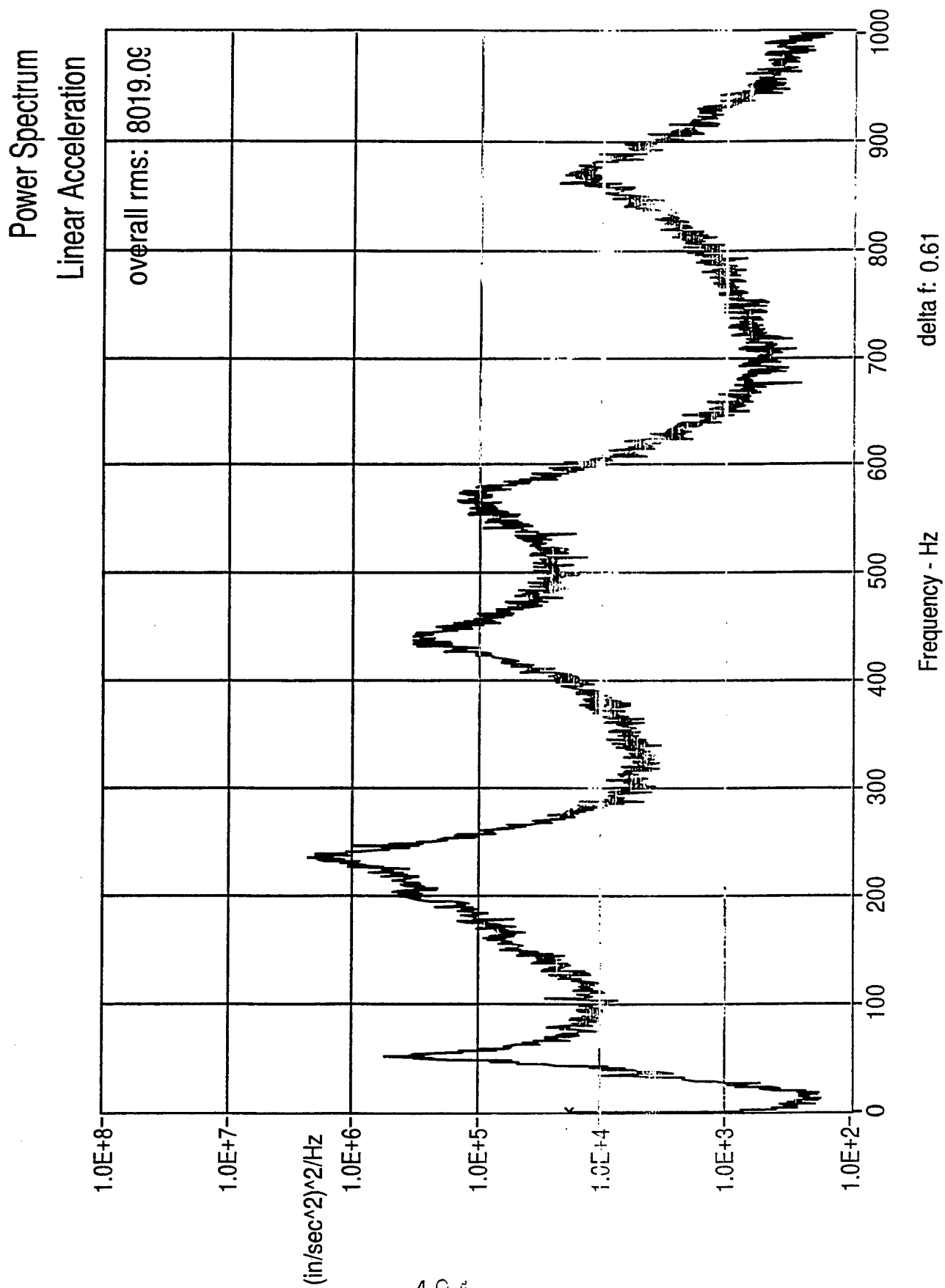
F-15 TPN_3042: alpha=24 beta=0 bp=65



F-15 TPN_3046: alpha=20 beta=4 bp=65

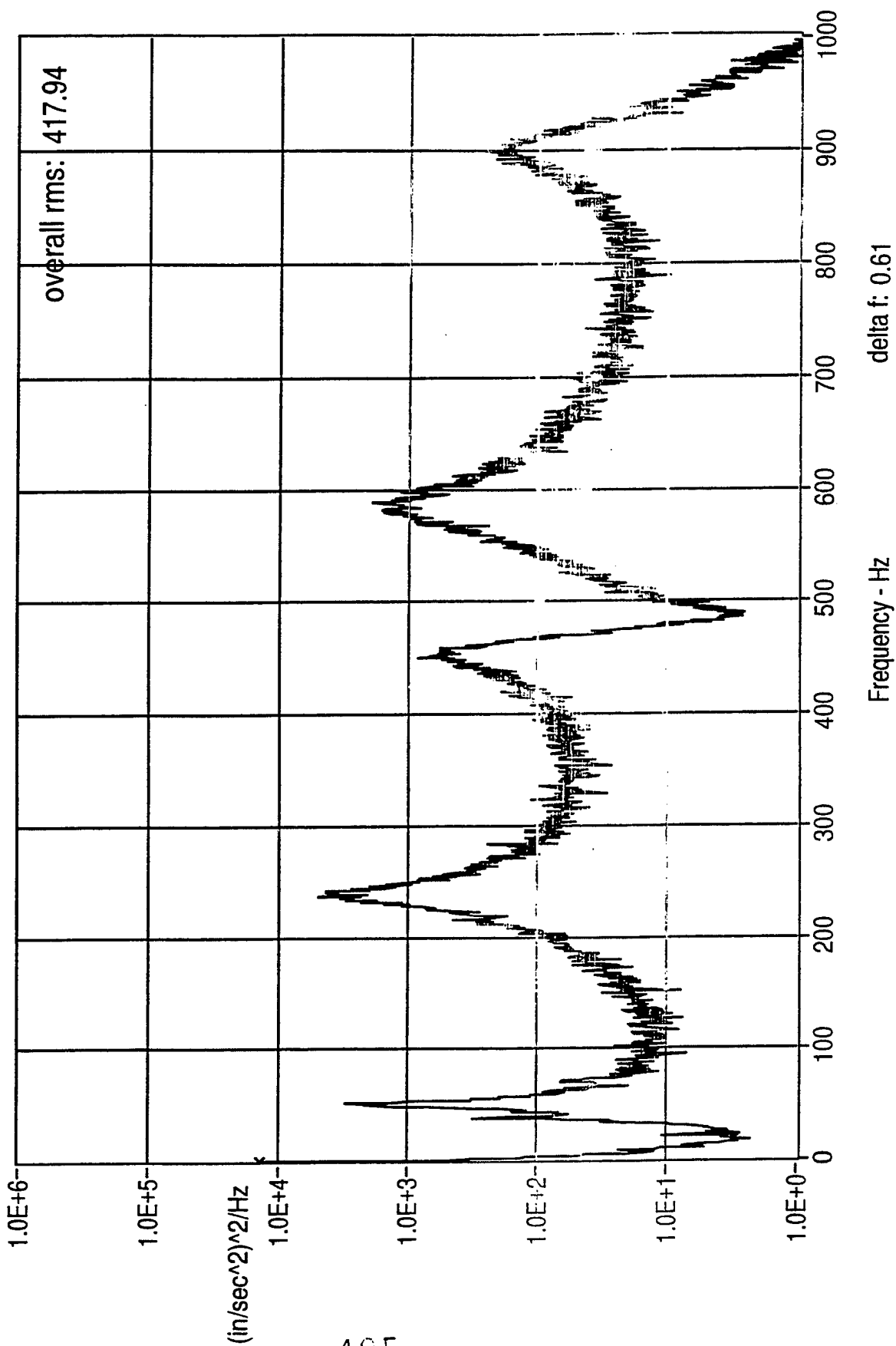


F-15 TPN_3048: alpha=24 beta=4 bp=65



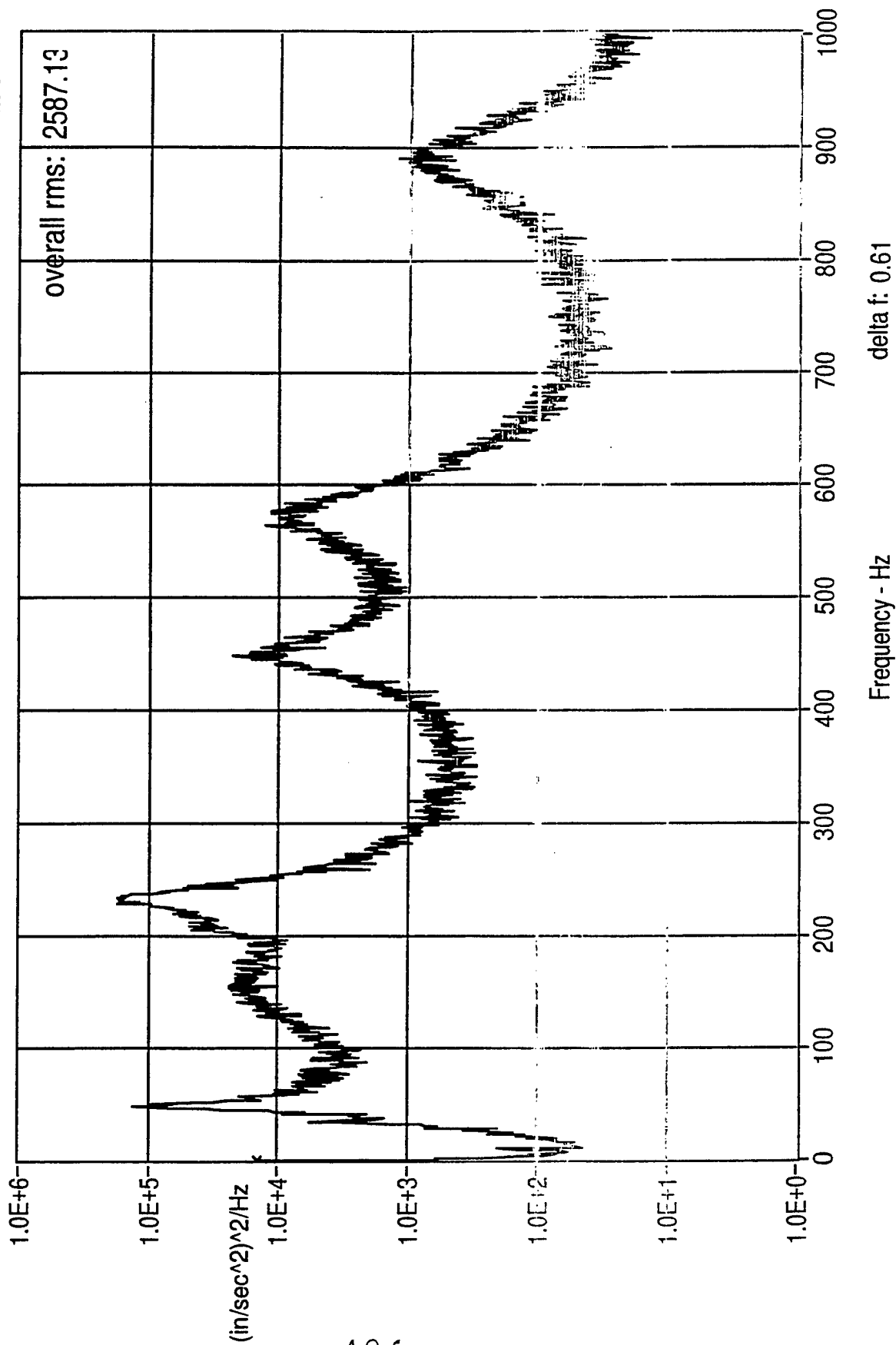
F-15 TPN_3243: q=30 alpha=8 beta=0 bp=0

Power Spectrum
Linear Acceleration



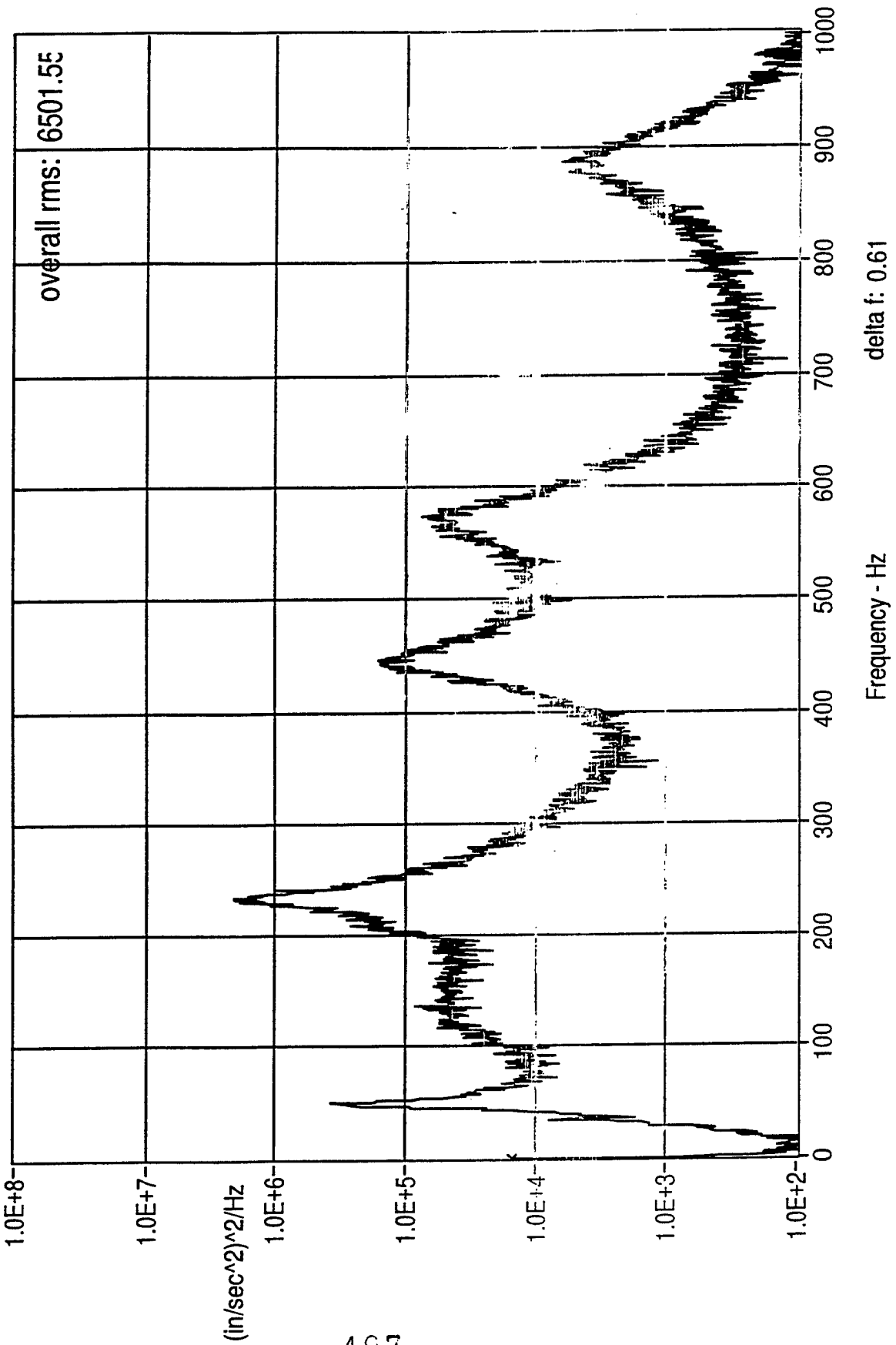
F-15 TPN_3249: q=30 alpha=20 beta=0 bp=0

Power Spectrum
Linear Acceleration

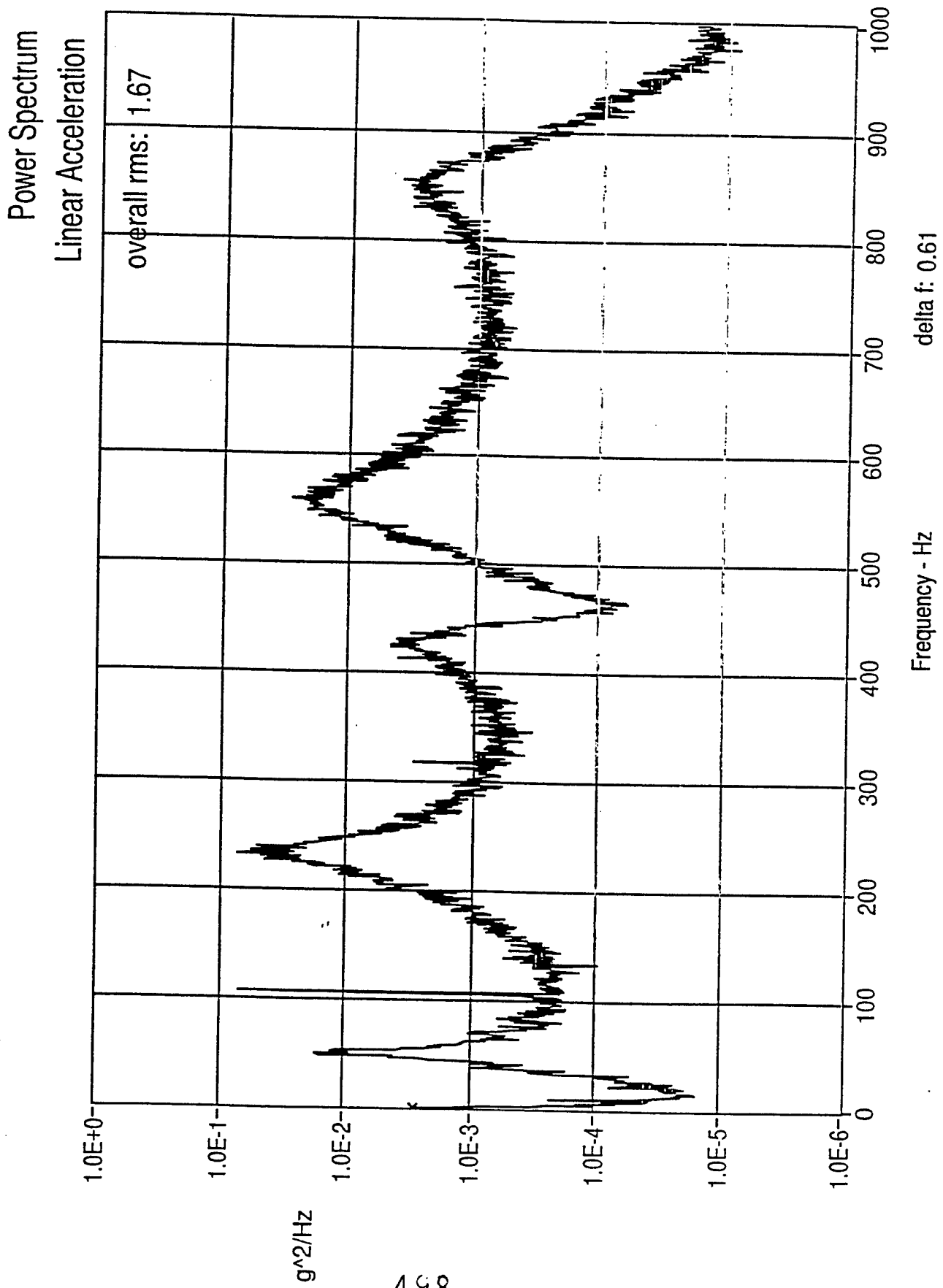


F-15 TPN_3251: q=30 alpha=24 beta=0 bp=0

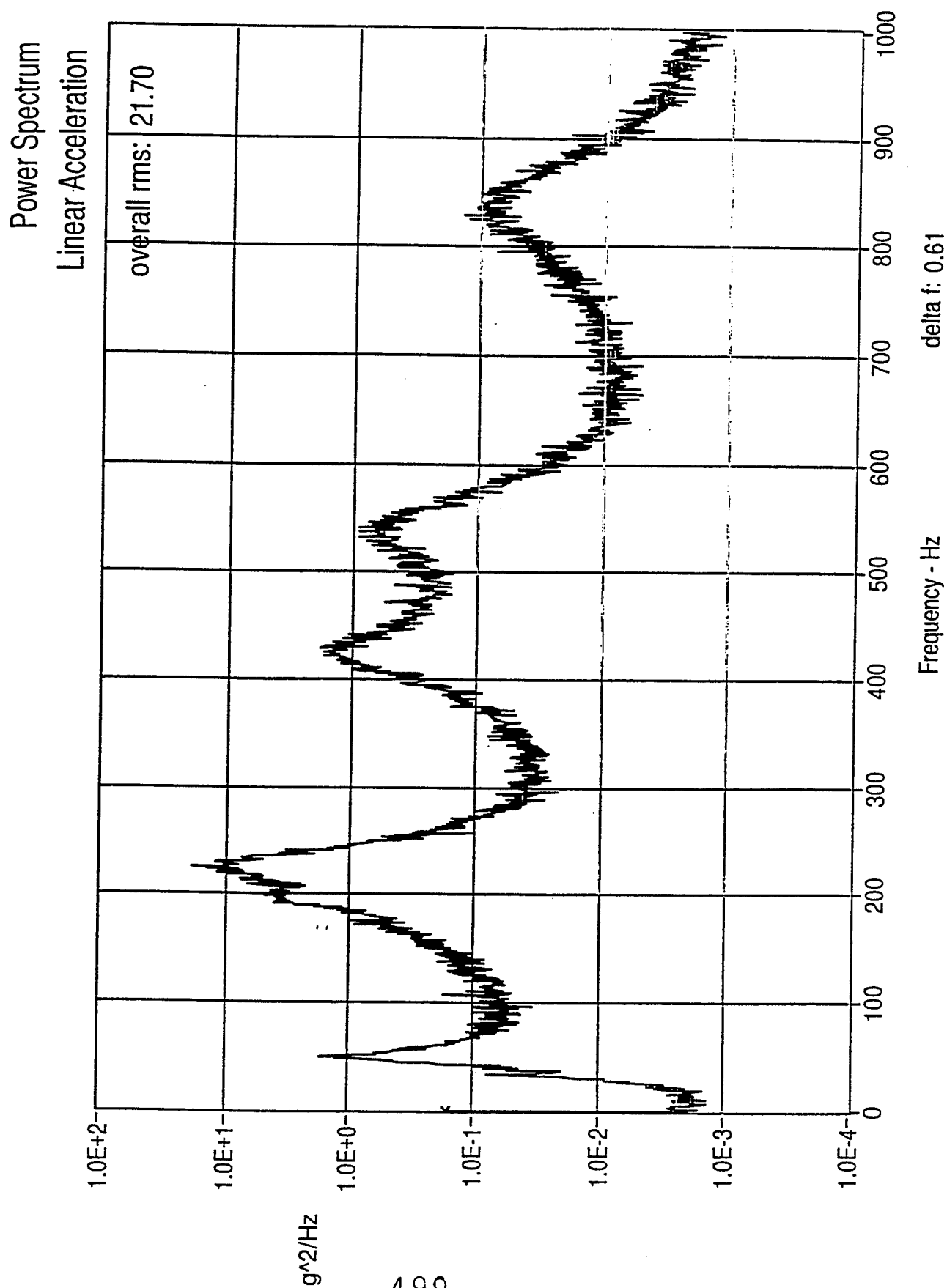
Power Spectrum
Linear Acceleration



F-15 TPN_2864: alpha=8 beta=-4 bp=0

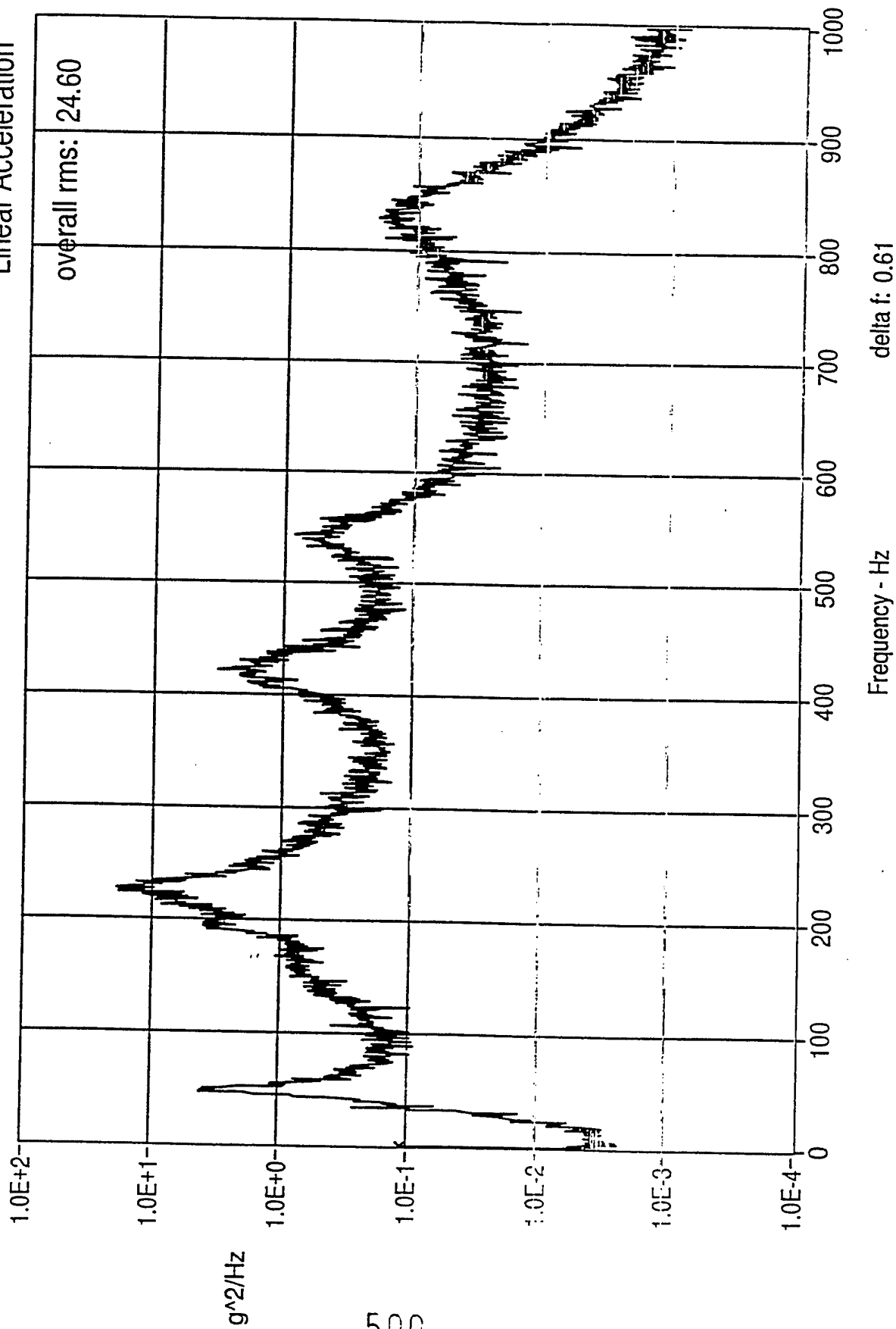


F-15 TPN_2870: alpha=20 beta=-4 bp=0

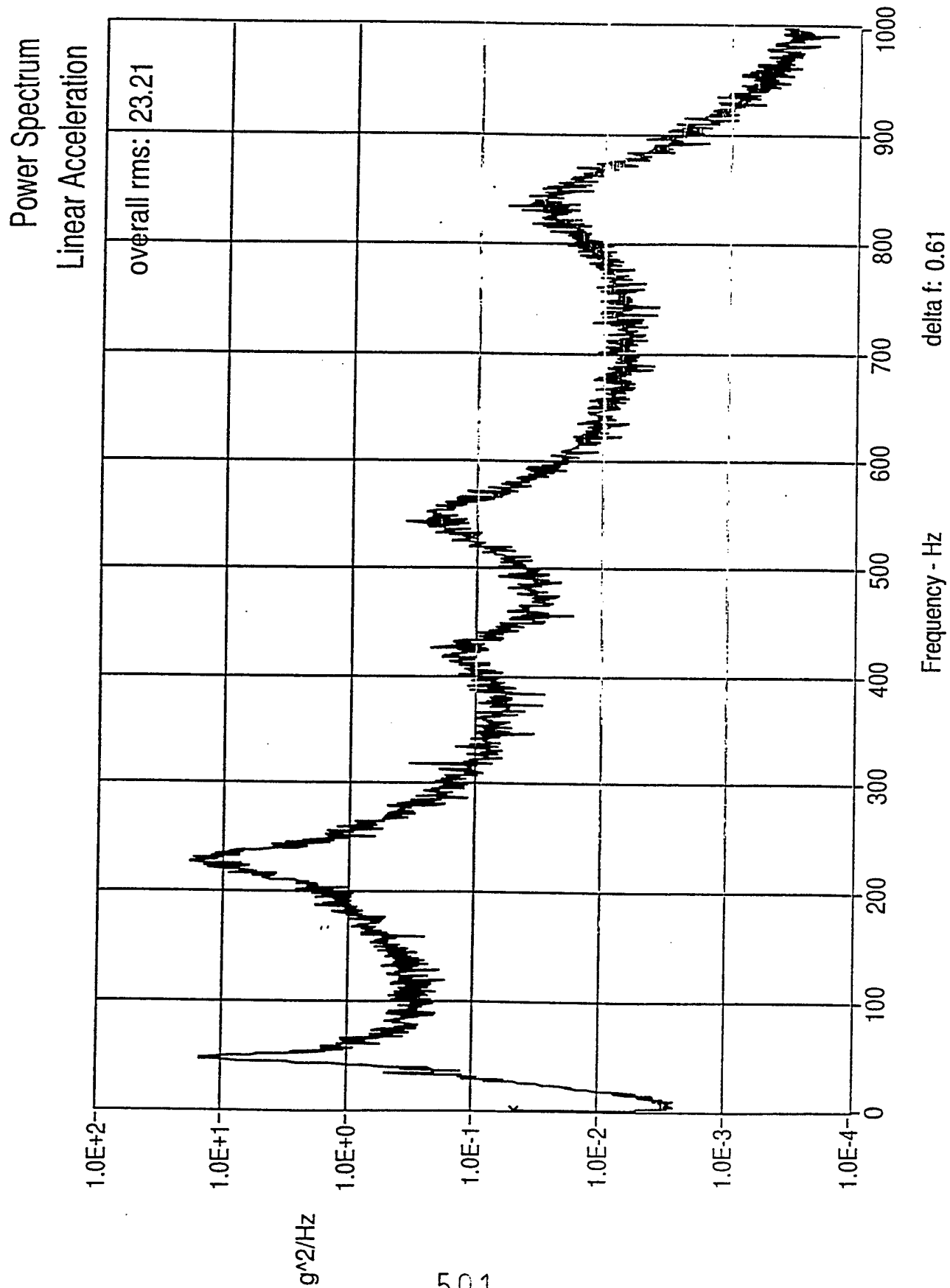


F-15 TPN_2872: alpha=24 beta=-4 bp=0

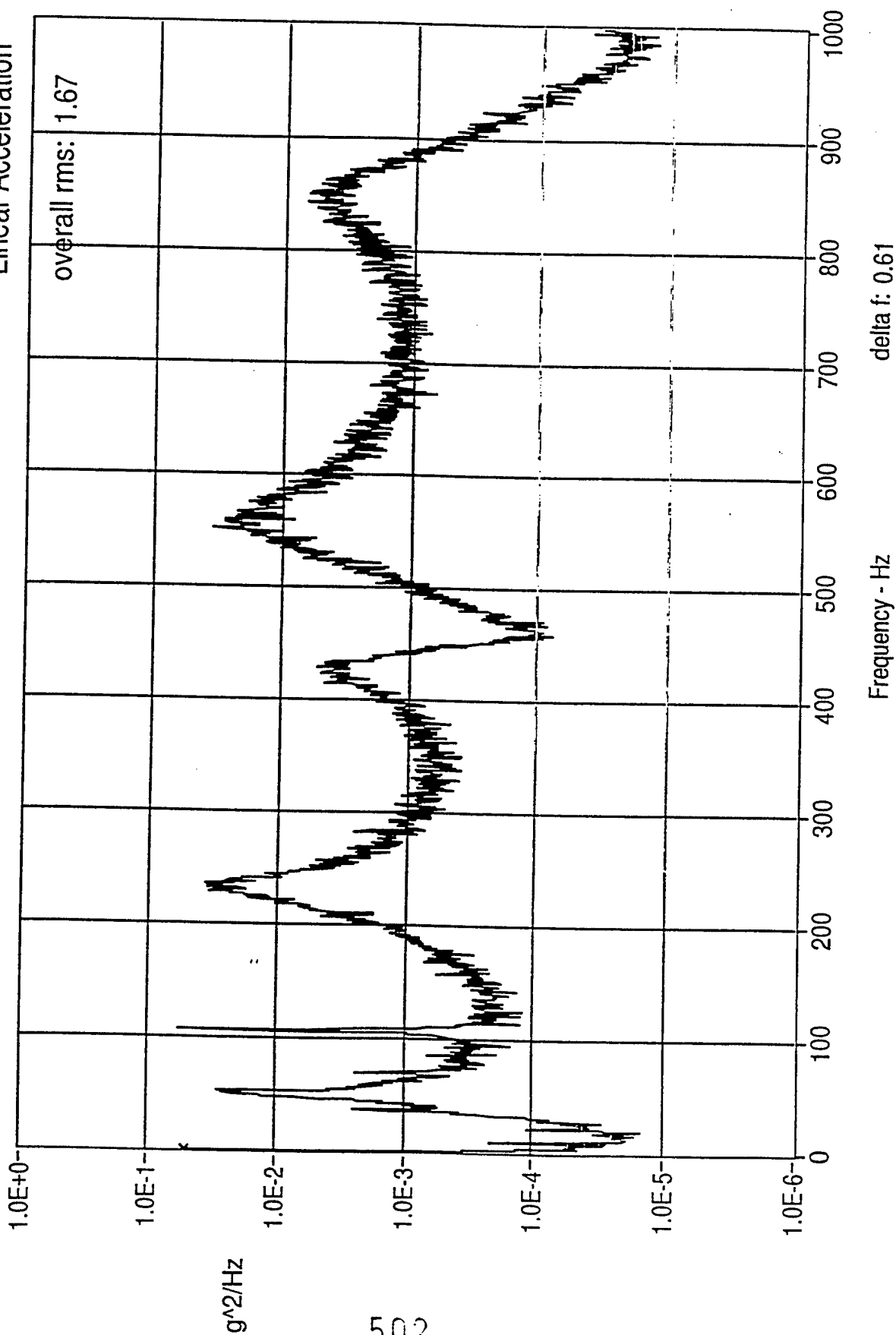
Power Spectrum
Linear Acceleration



F-15 TPN_2874: alpha=32 beta=-4 bp=0

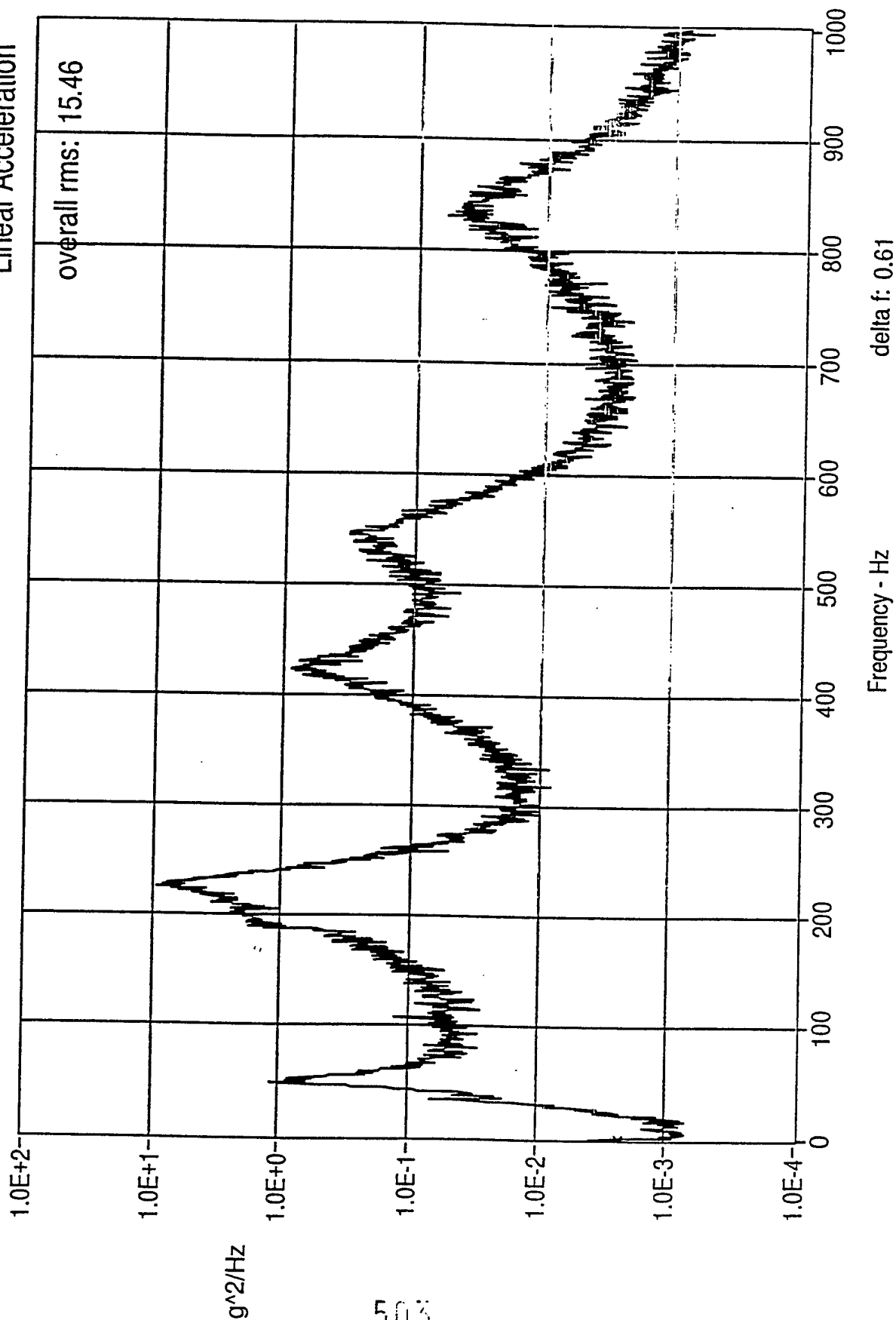


Power Spectrum
Linear Acceleration



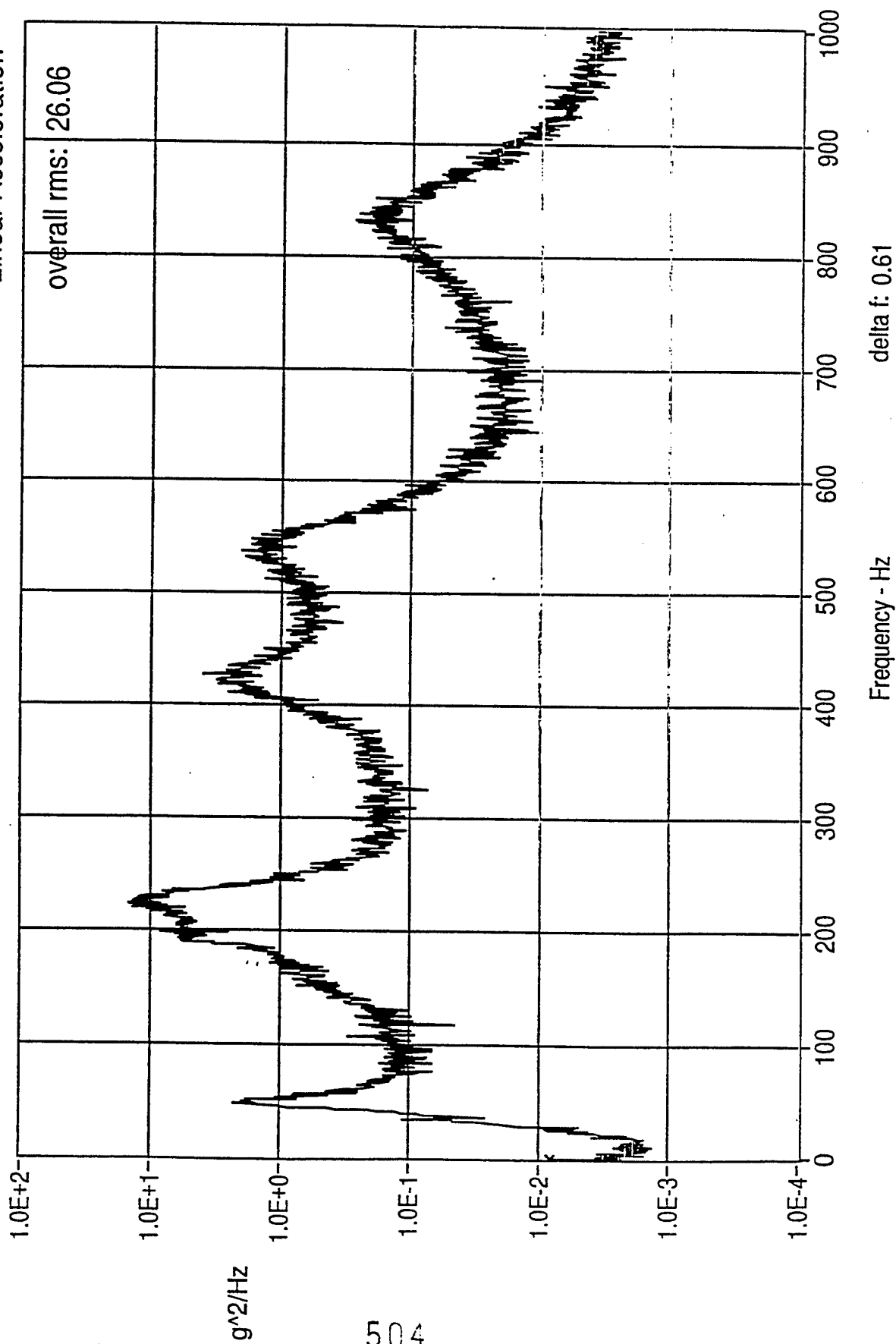
F-15 TPN_2850: alpha=20 beta=0 bp=0

Power Spectrum
Linear Acceleration

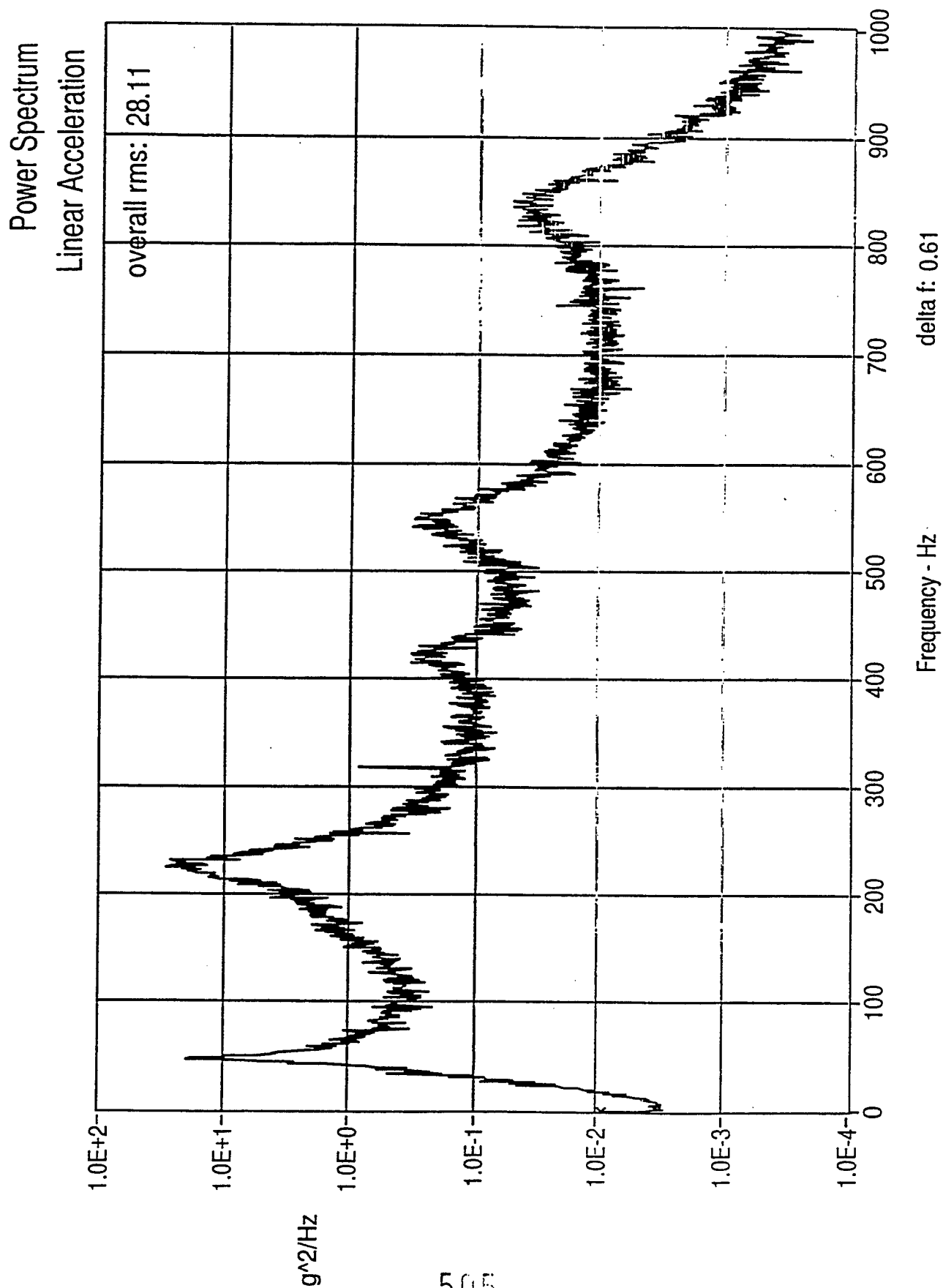


F-15 TPN_2852: alpha=24 beta=0 bp=0

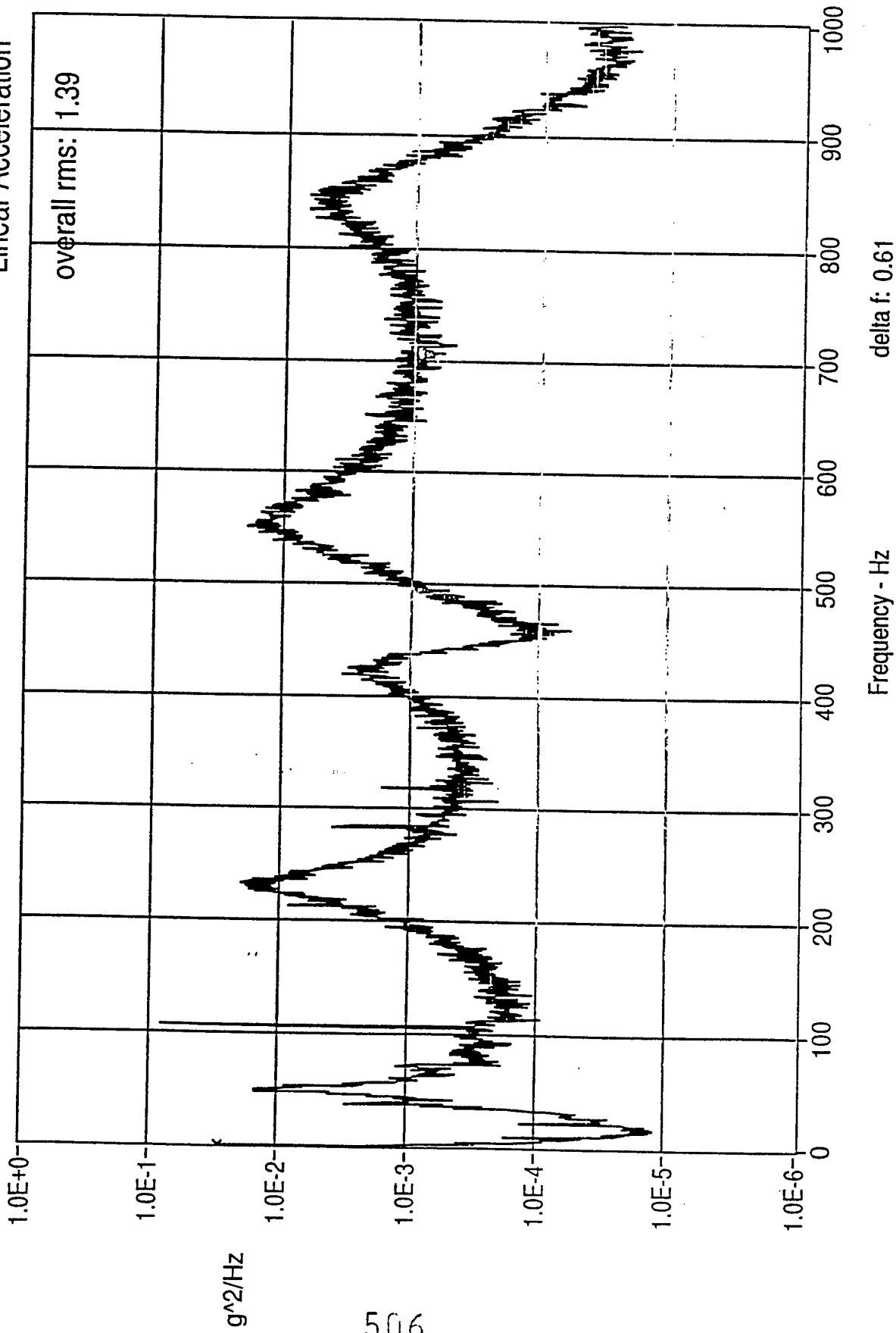
Power Spectrum
Linear Acceleration



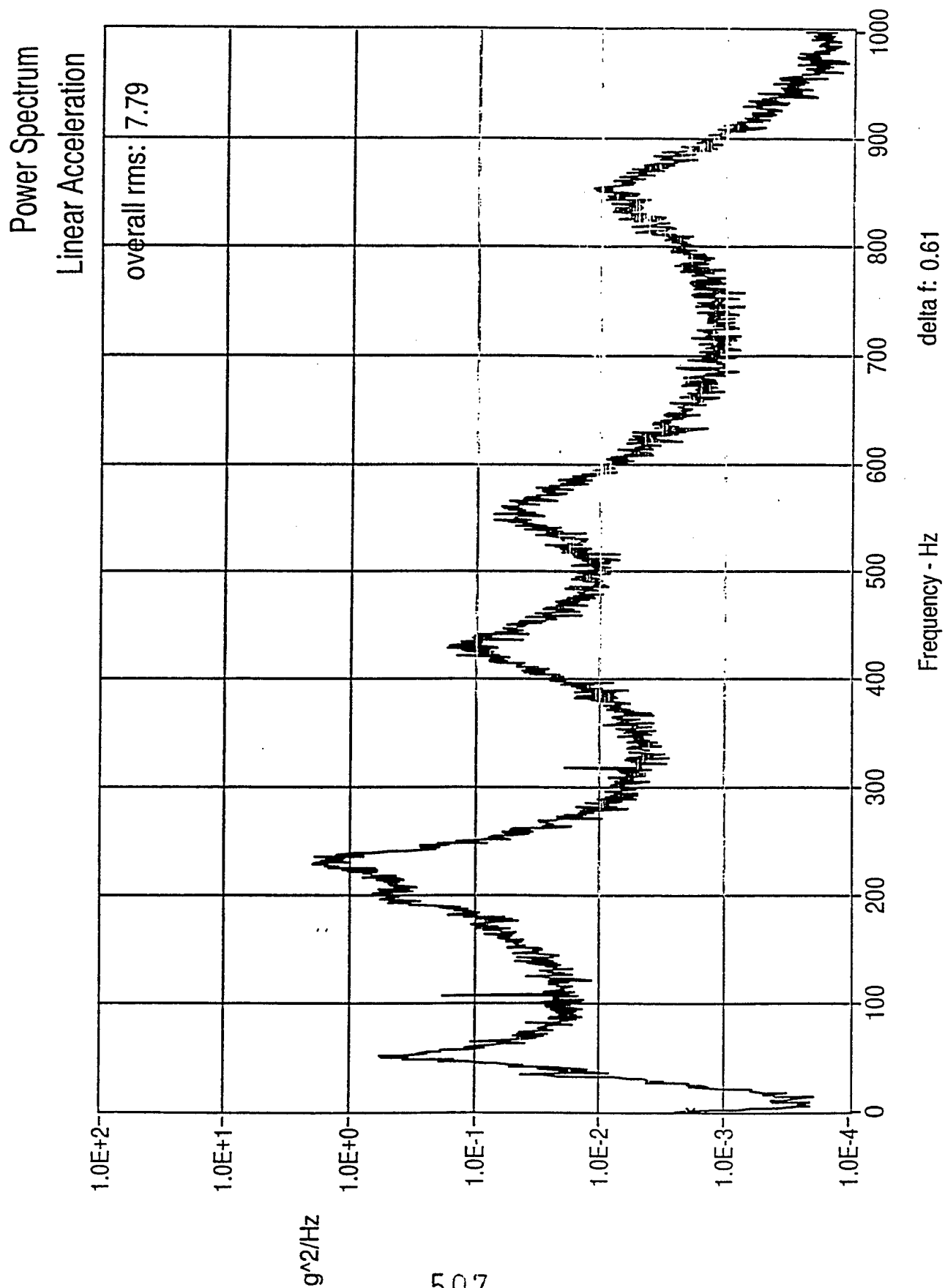
F-15 TPN_2854: alpha=32 beta=0 bp=0



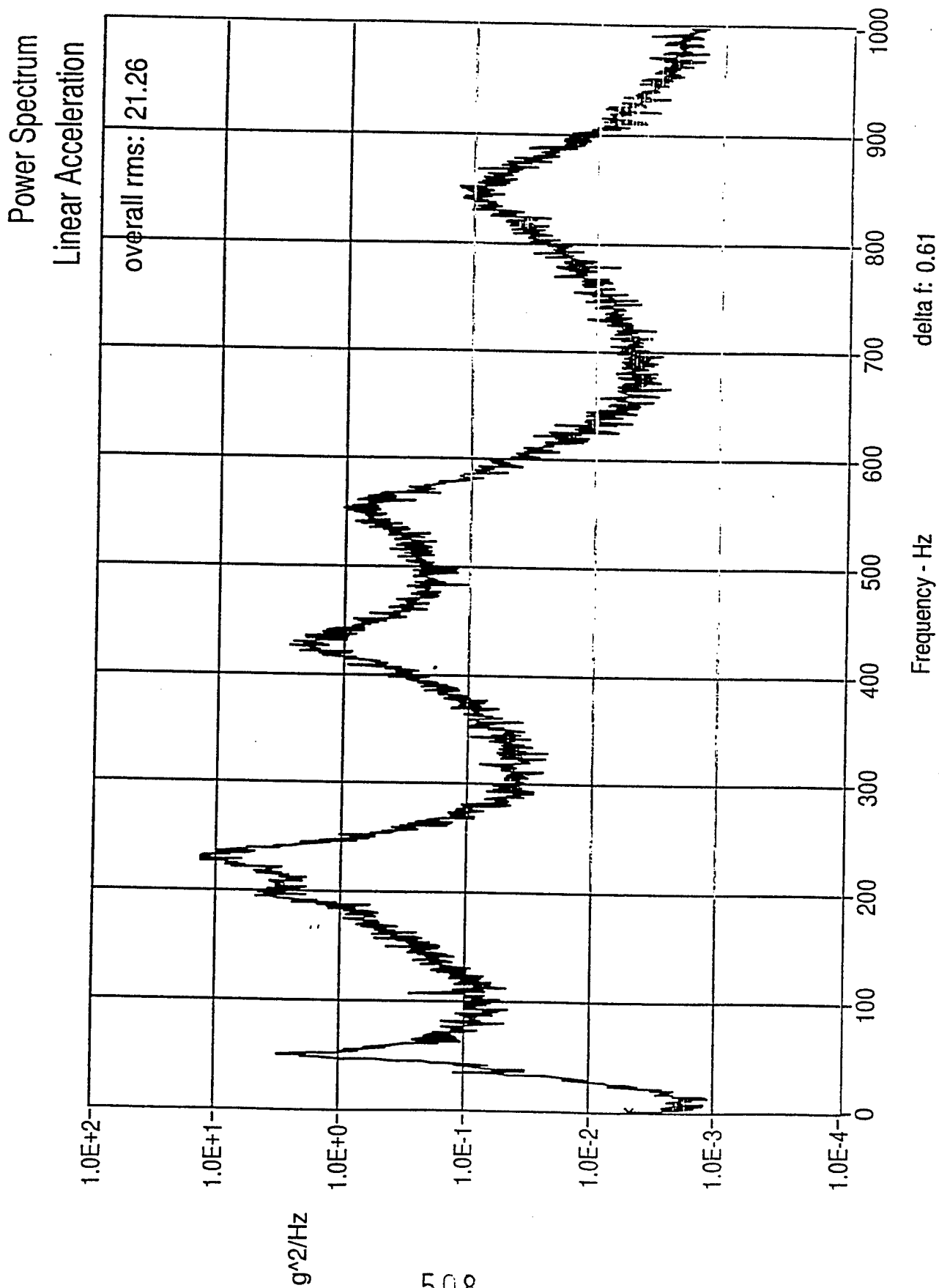
Power Spectrum
Linear Acceleration



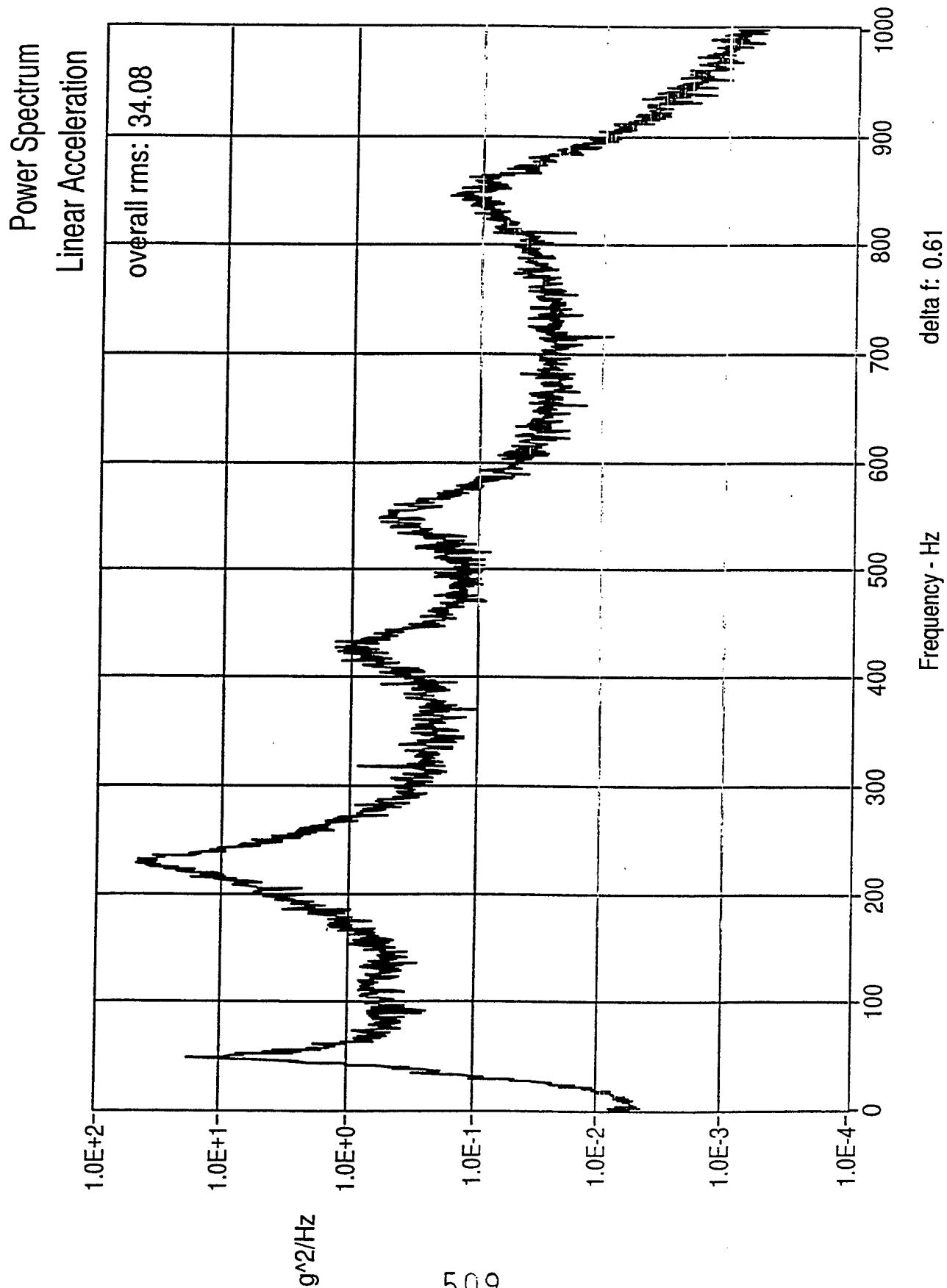
F-15 TPN_2924: alpha=20 beta=4 bp=0

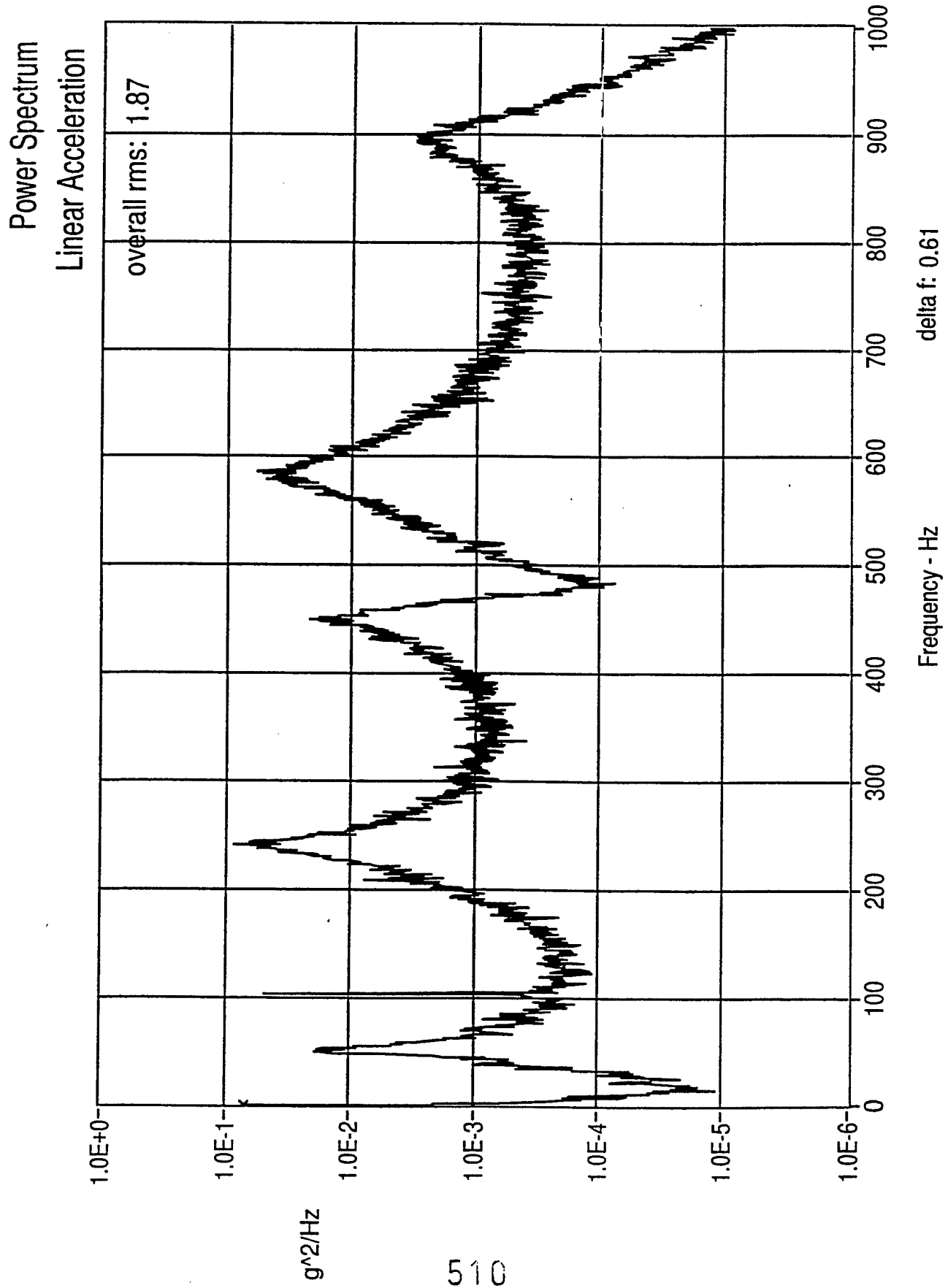


F-15 TPN_2926: alpha=24 beta=4 bp=0



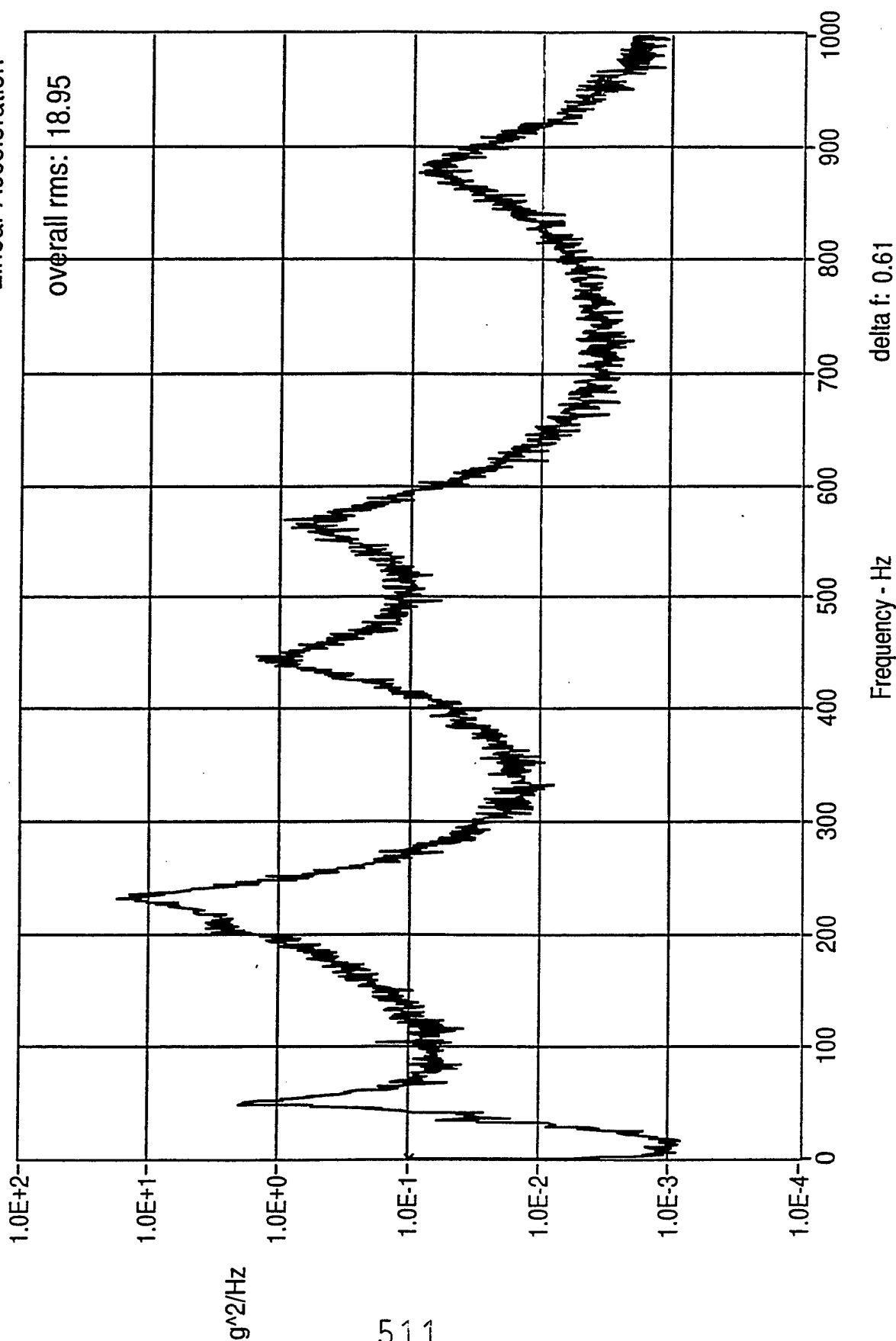
F-15 TPN_2928: alpha=32 beta=4 bp=0

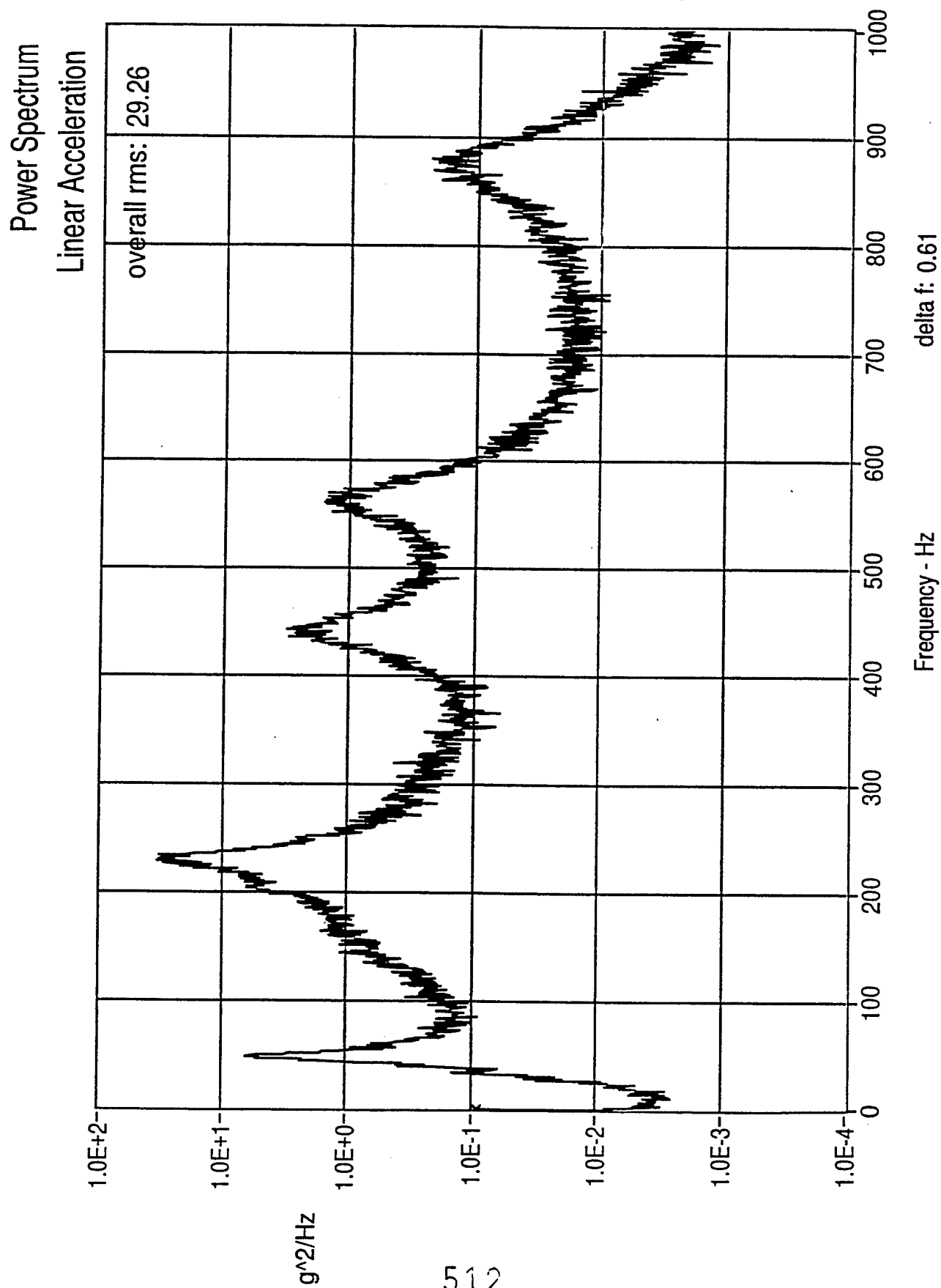




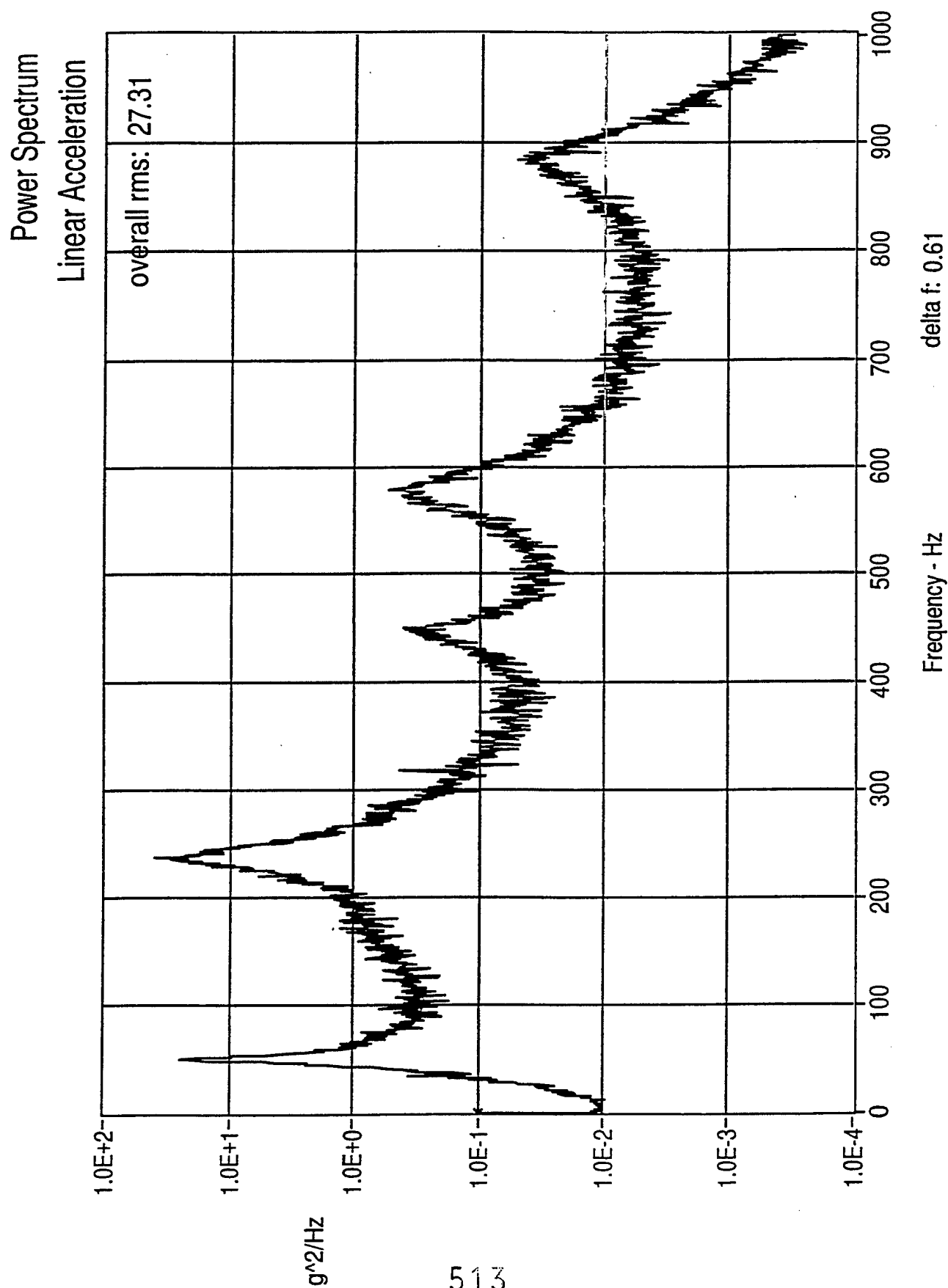
F-15 TPN_3375: alpha=20 beta=-4 bp=45

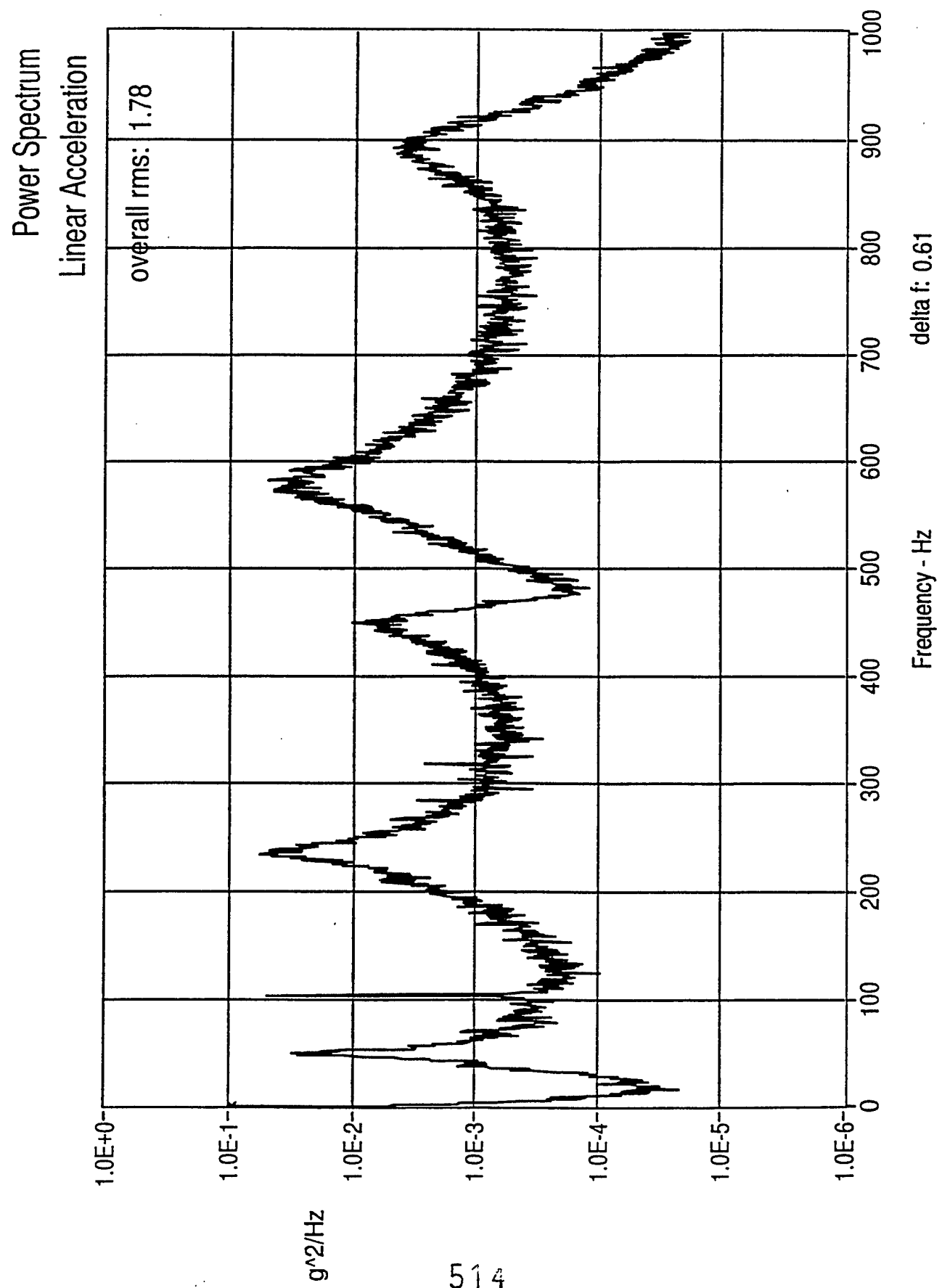
Power Spectrum
Linear Acceleration



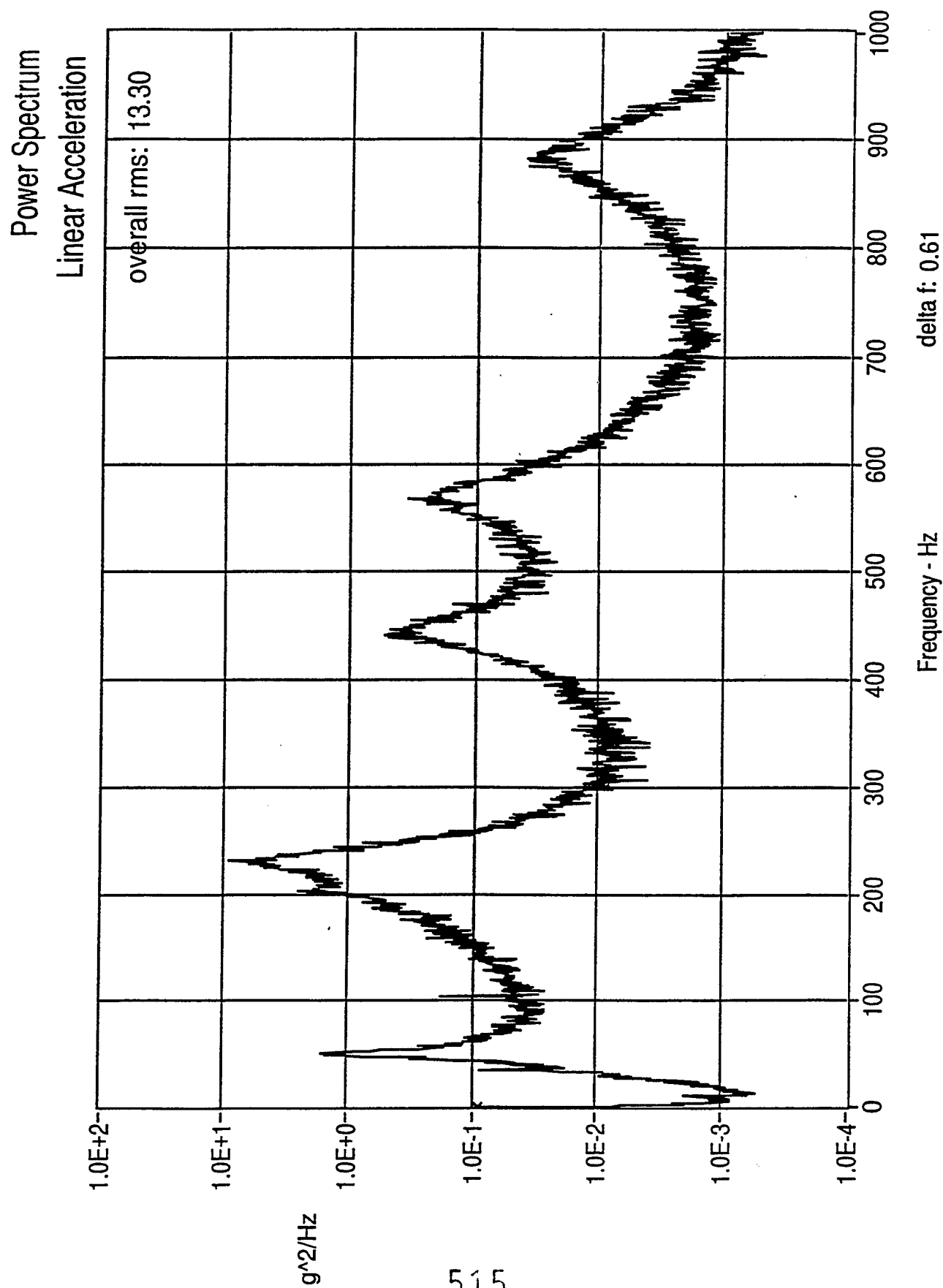


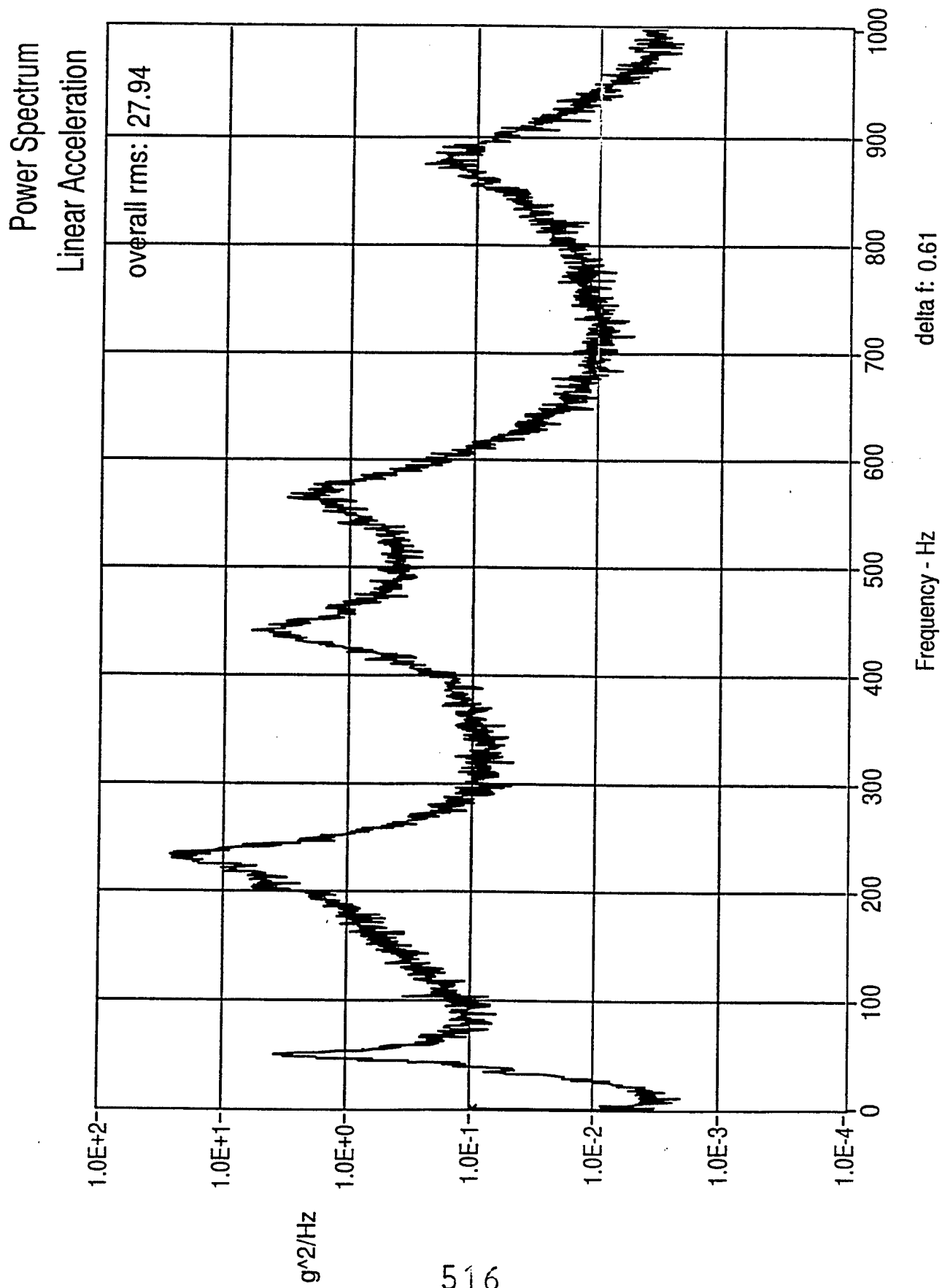
F-15 TPN_3379: alpha=32 beta=-4 bp=45



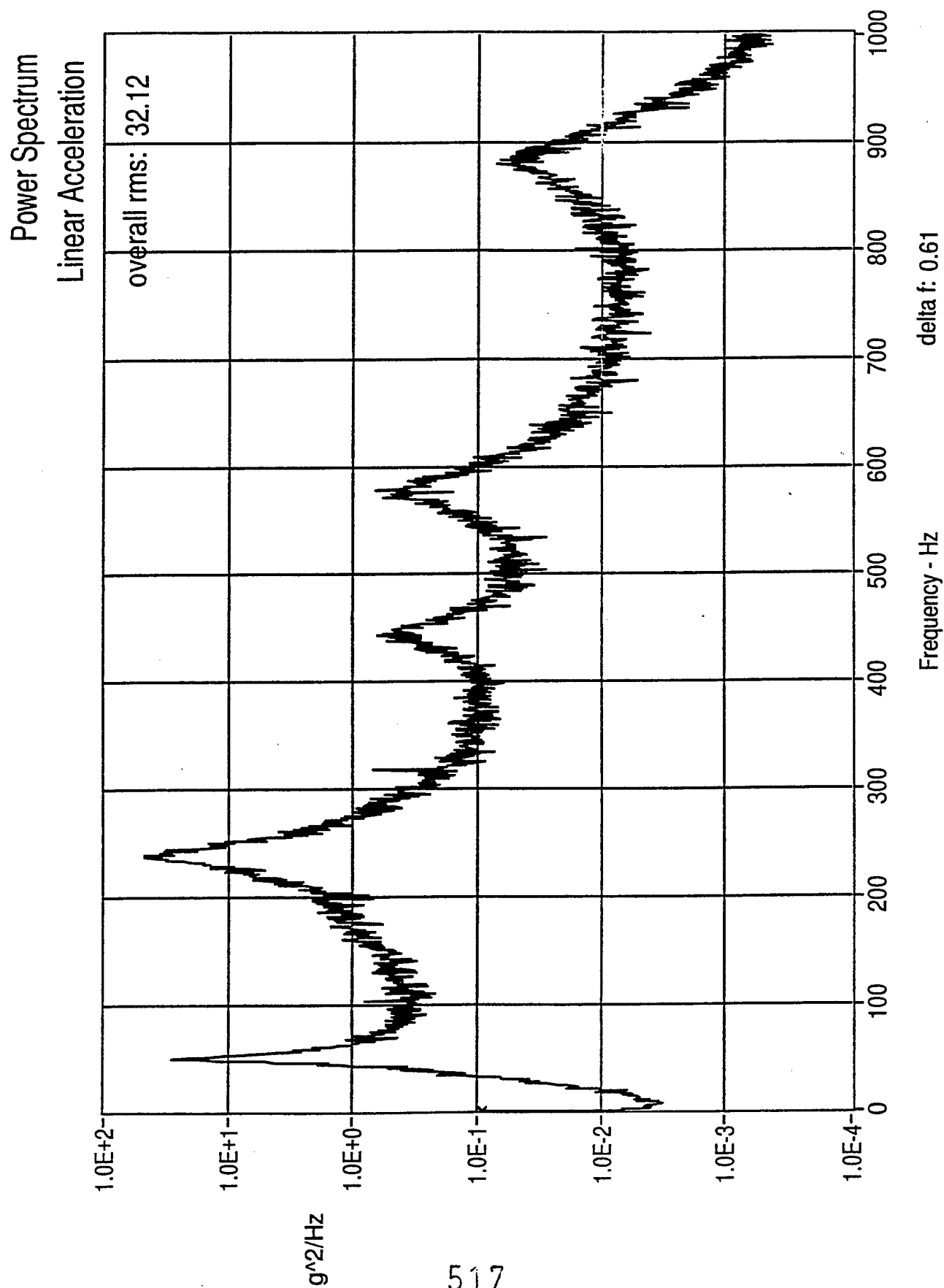


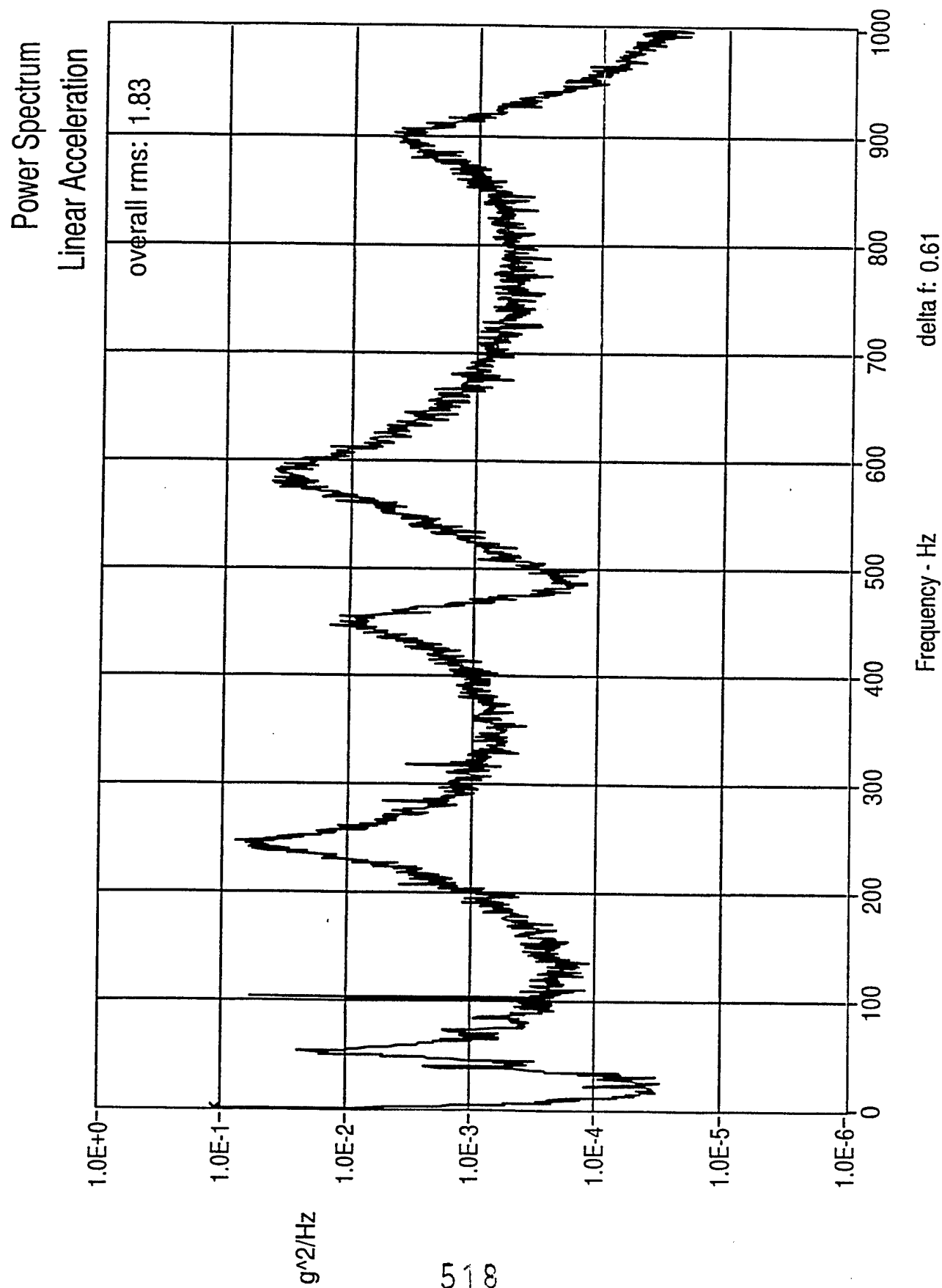
F-15 TPN_3339: alpha=20 beta=0 bp=45



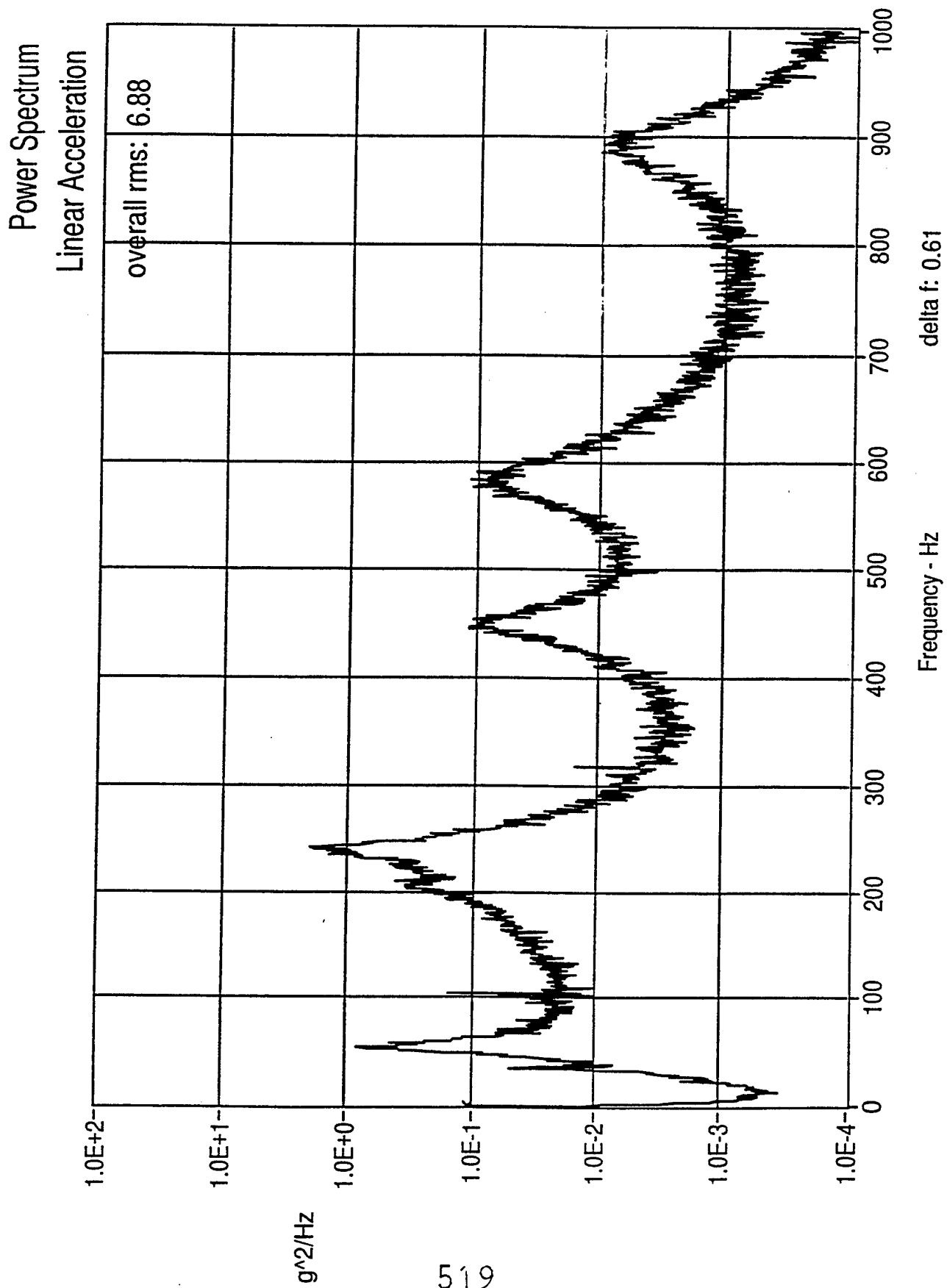


F-15 TPN_3343: alpha=32 beta=0 bp=45



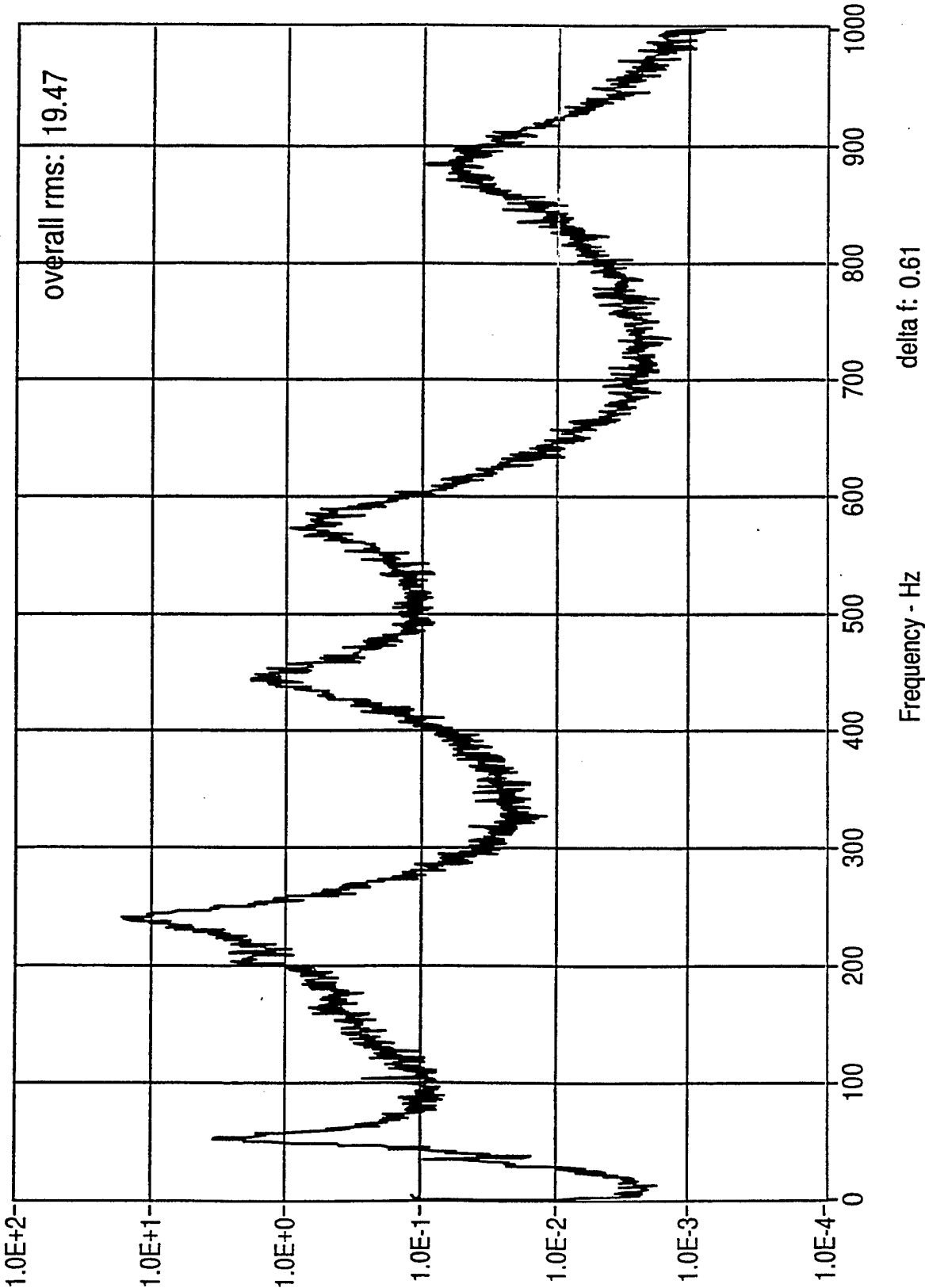


F-15 TPN_3357: alpha=20 beta=4 bp=45

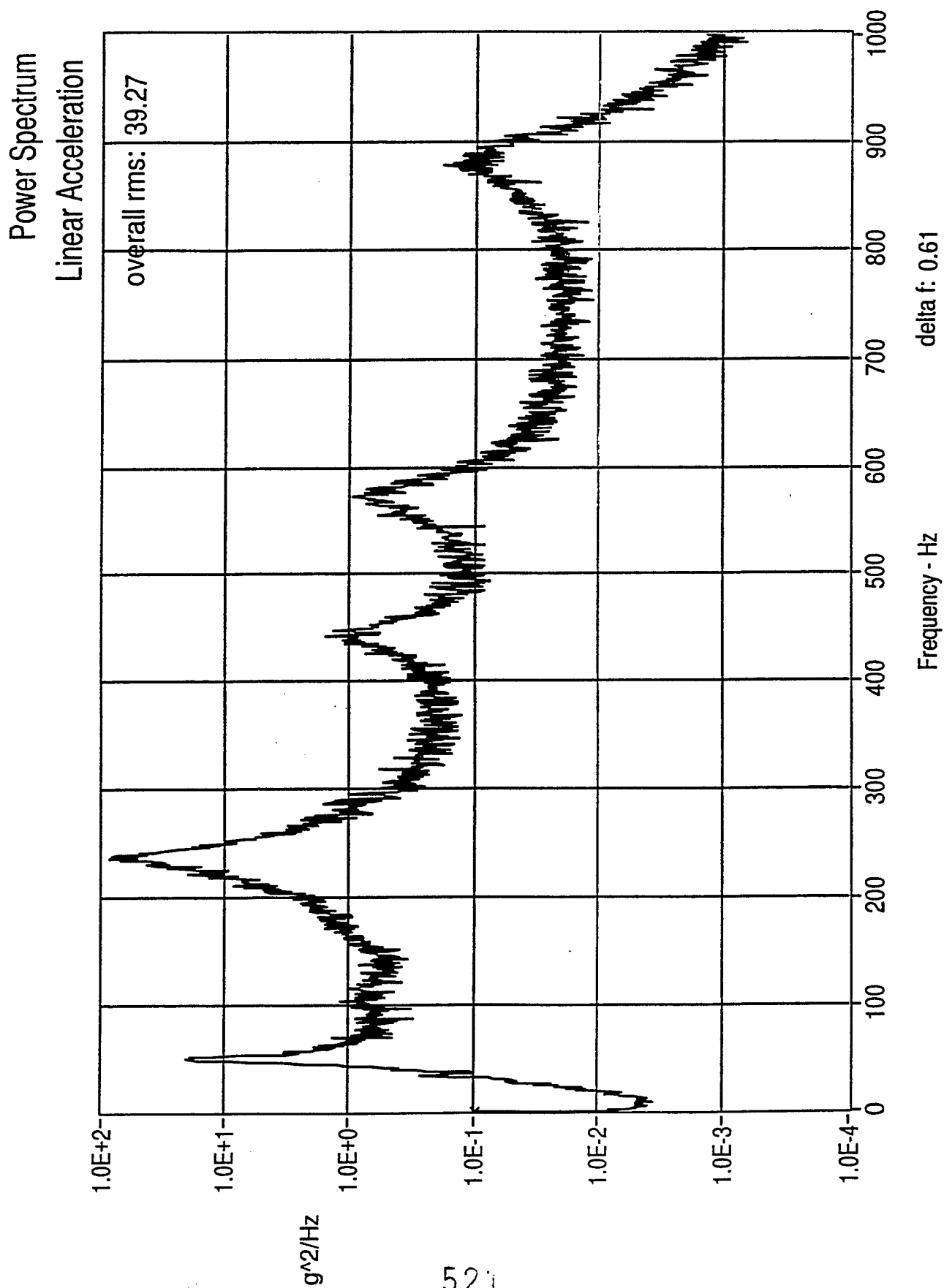


F-15 TPN_3359: alpha=24 beta=4 bp=45

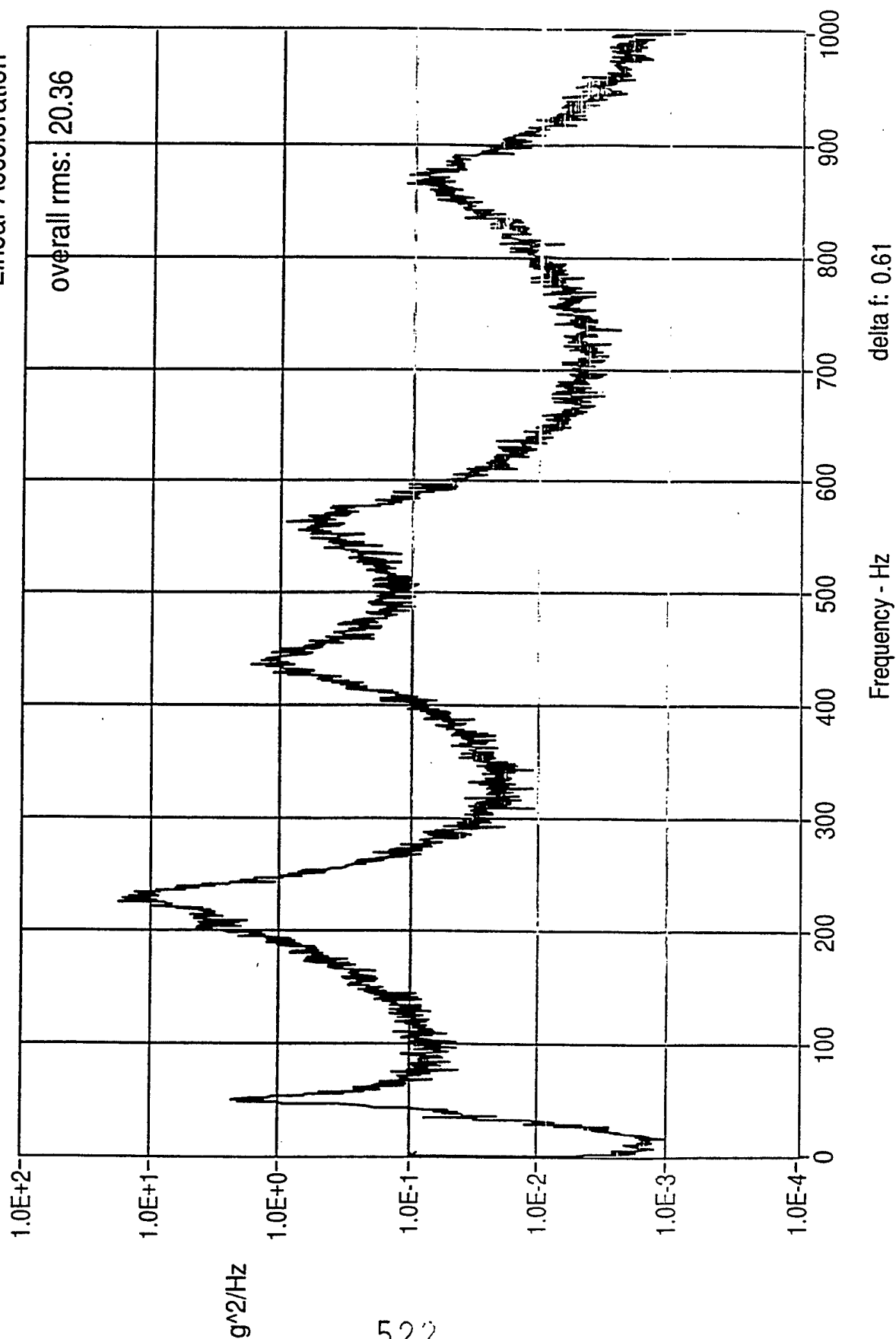
Power Spectrum
Linear Acceleration



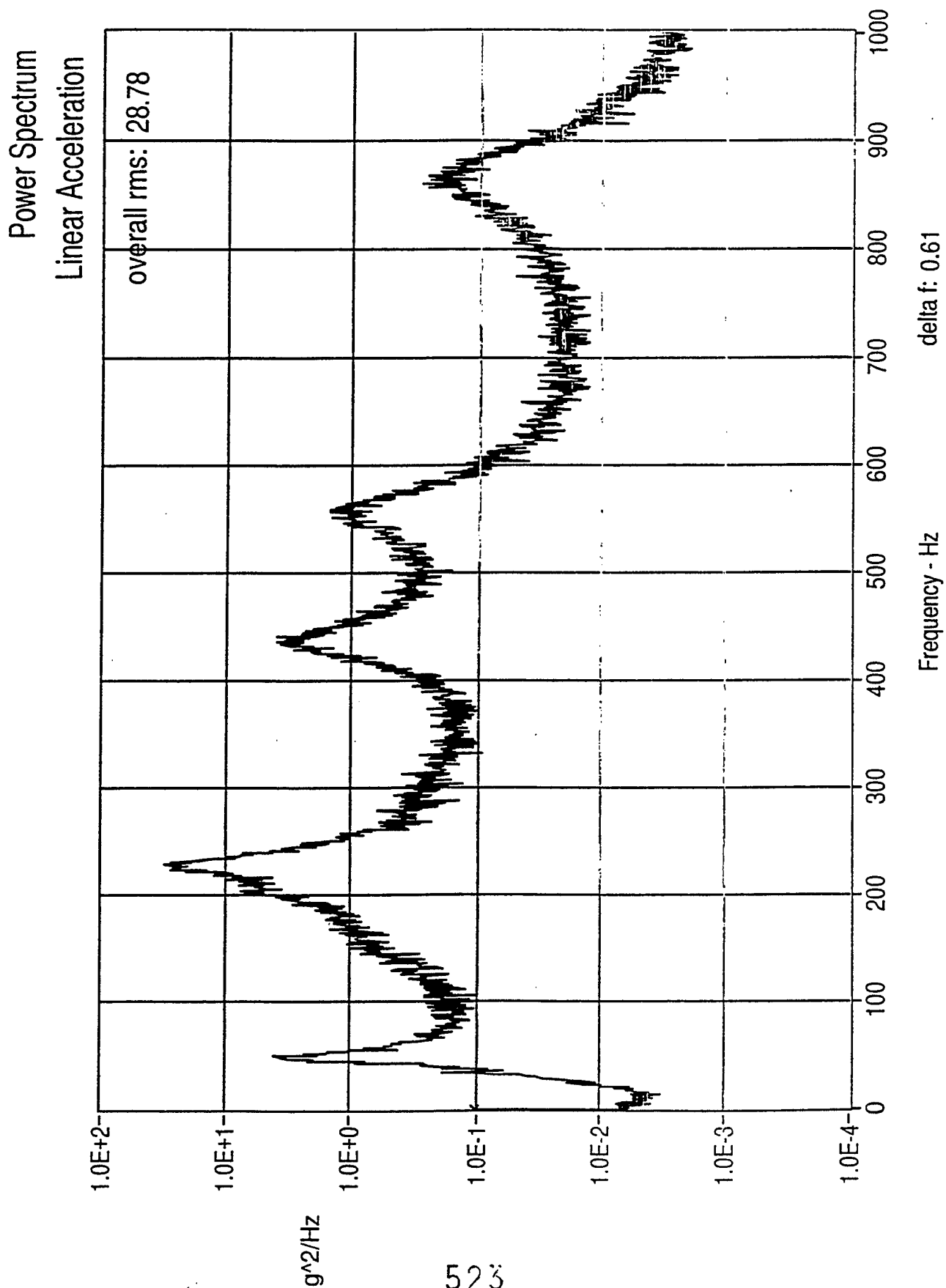
F-15 TPN_3361: alpha=32 beta=4 bp=45

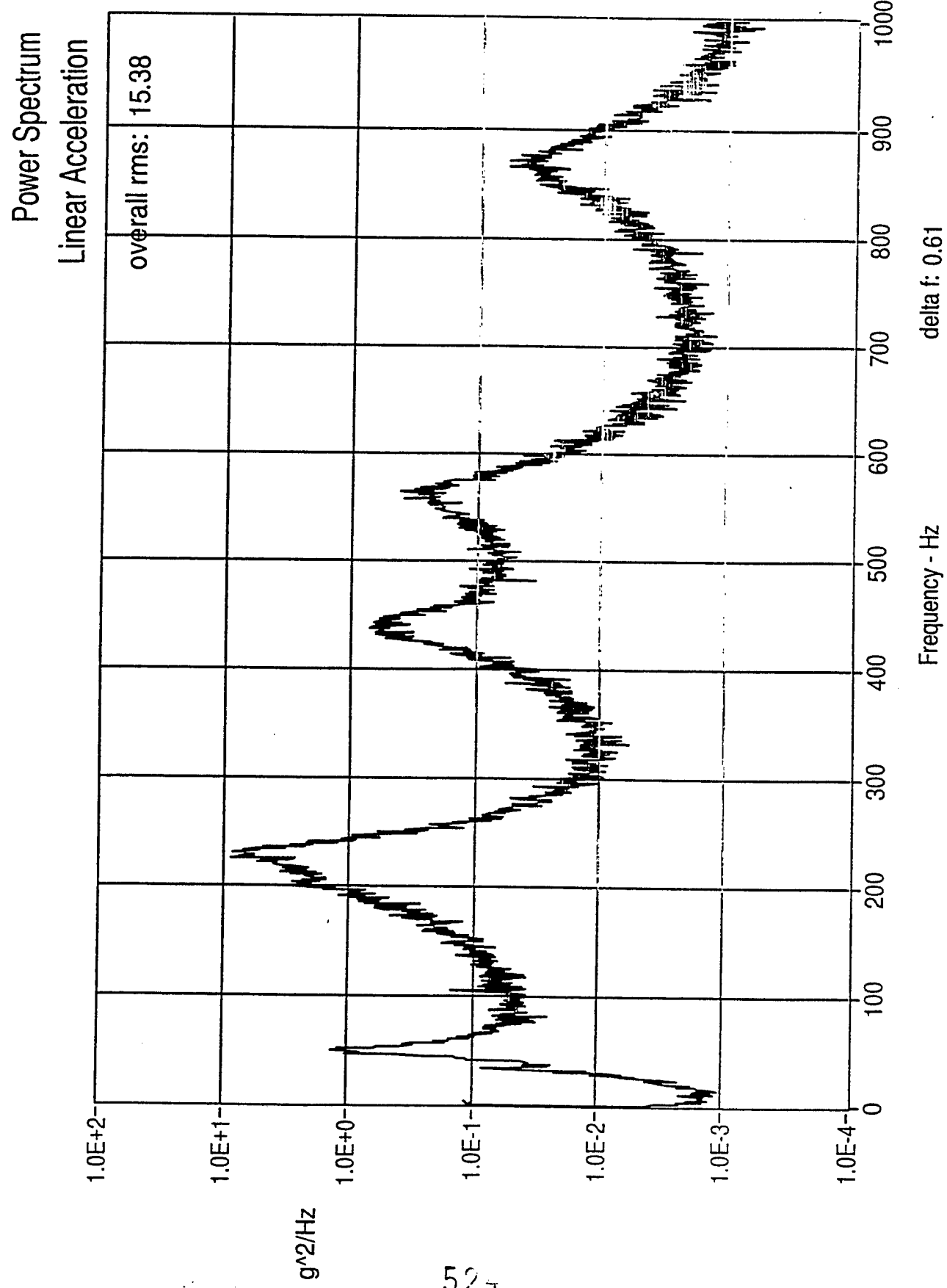


Power Spectrum
Linear Acceleration



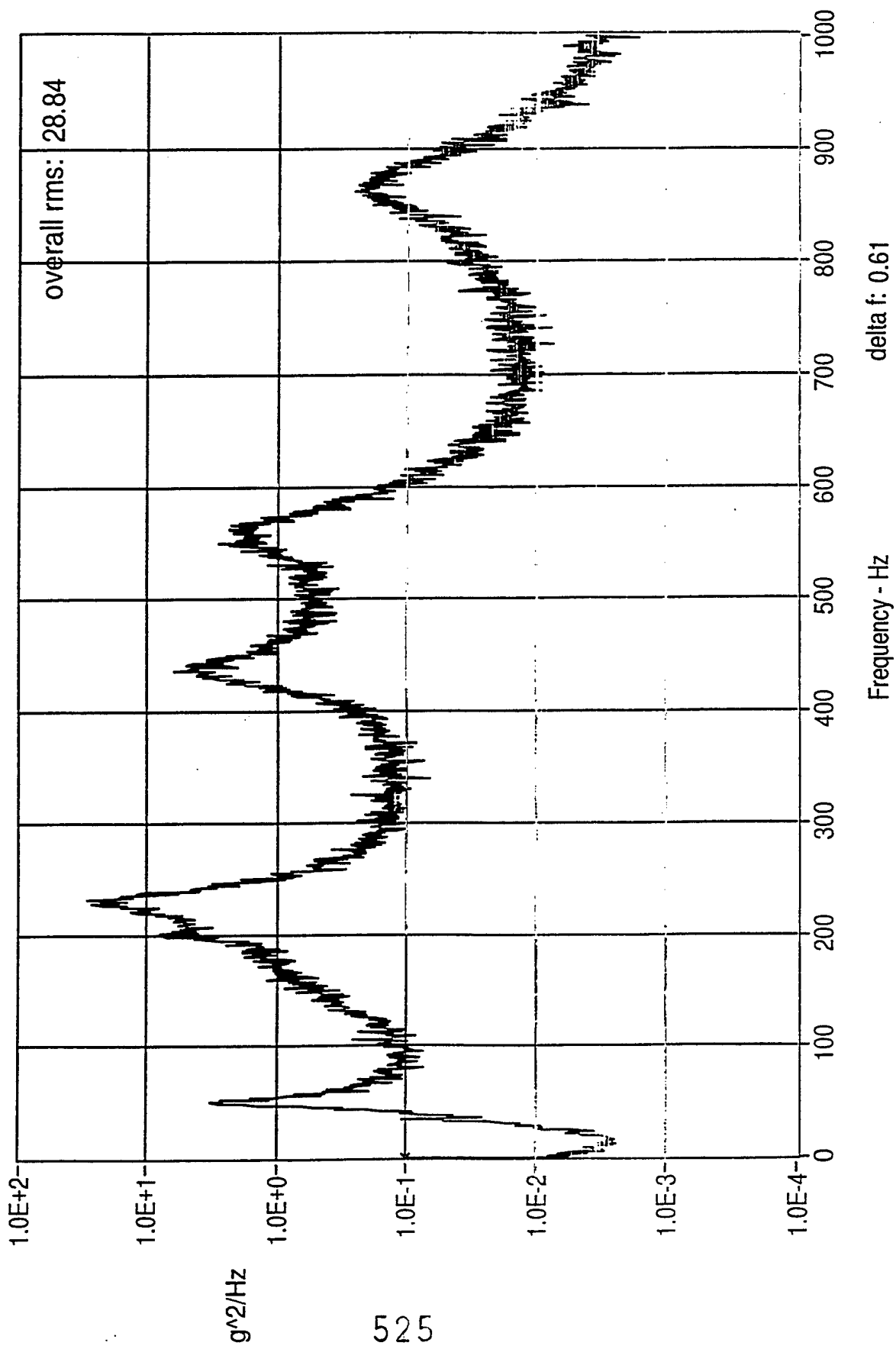
F-15 TPN_3036: alpha=24 beta=-4 bp=65

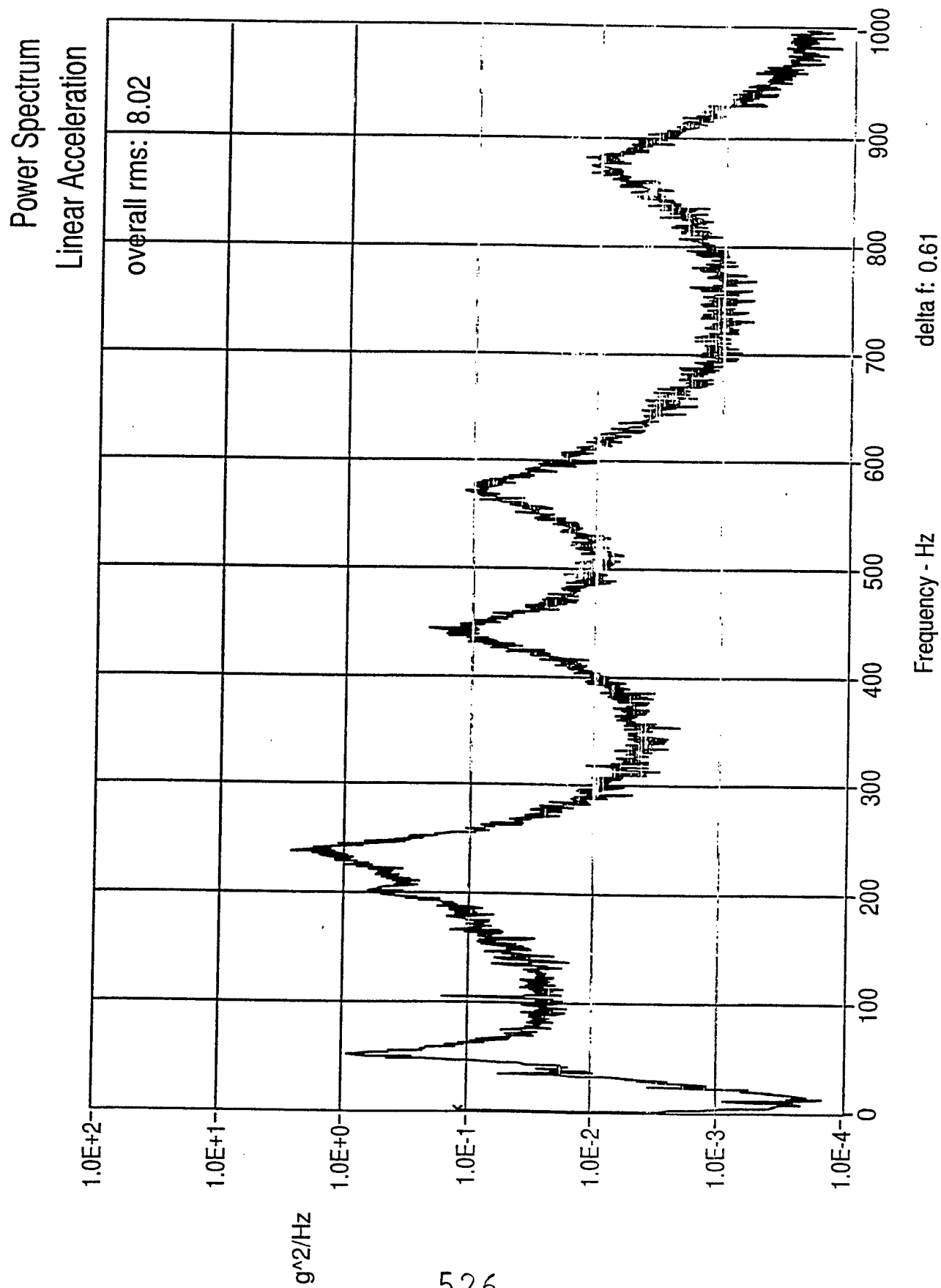




F-15 TPN_3042: alpha=24 beta=0 bp=65

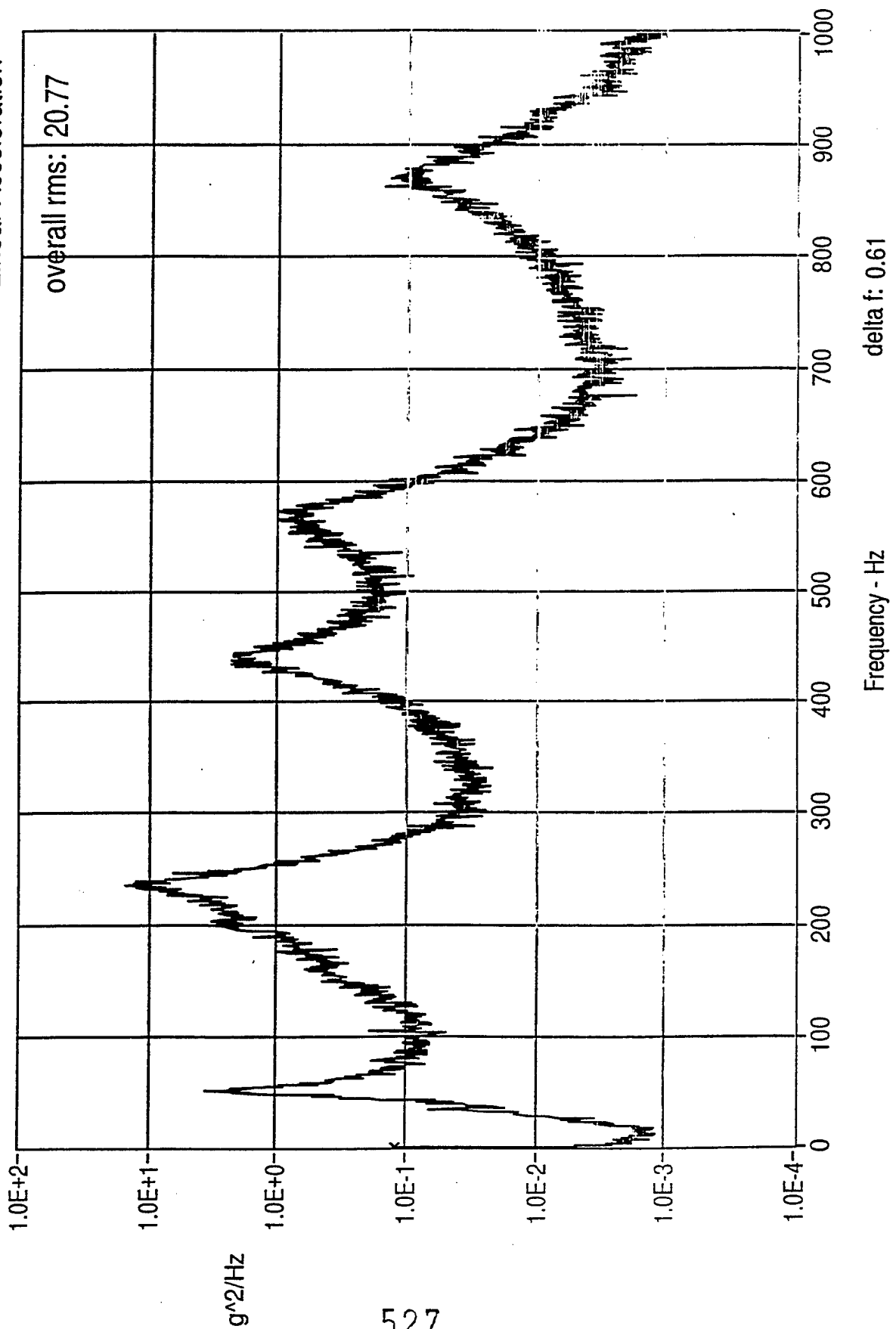
Power Spectrum Linear Acceleration





F-15 TPN_3048: alpha=24 beta=4 bp=65

Power Spectrum
Linear Acceleration



**FLEXIBLE TAIL RESPONSE
ACCELERATION DATA**

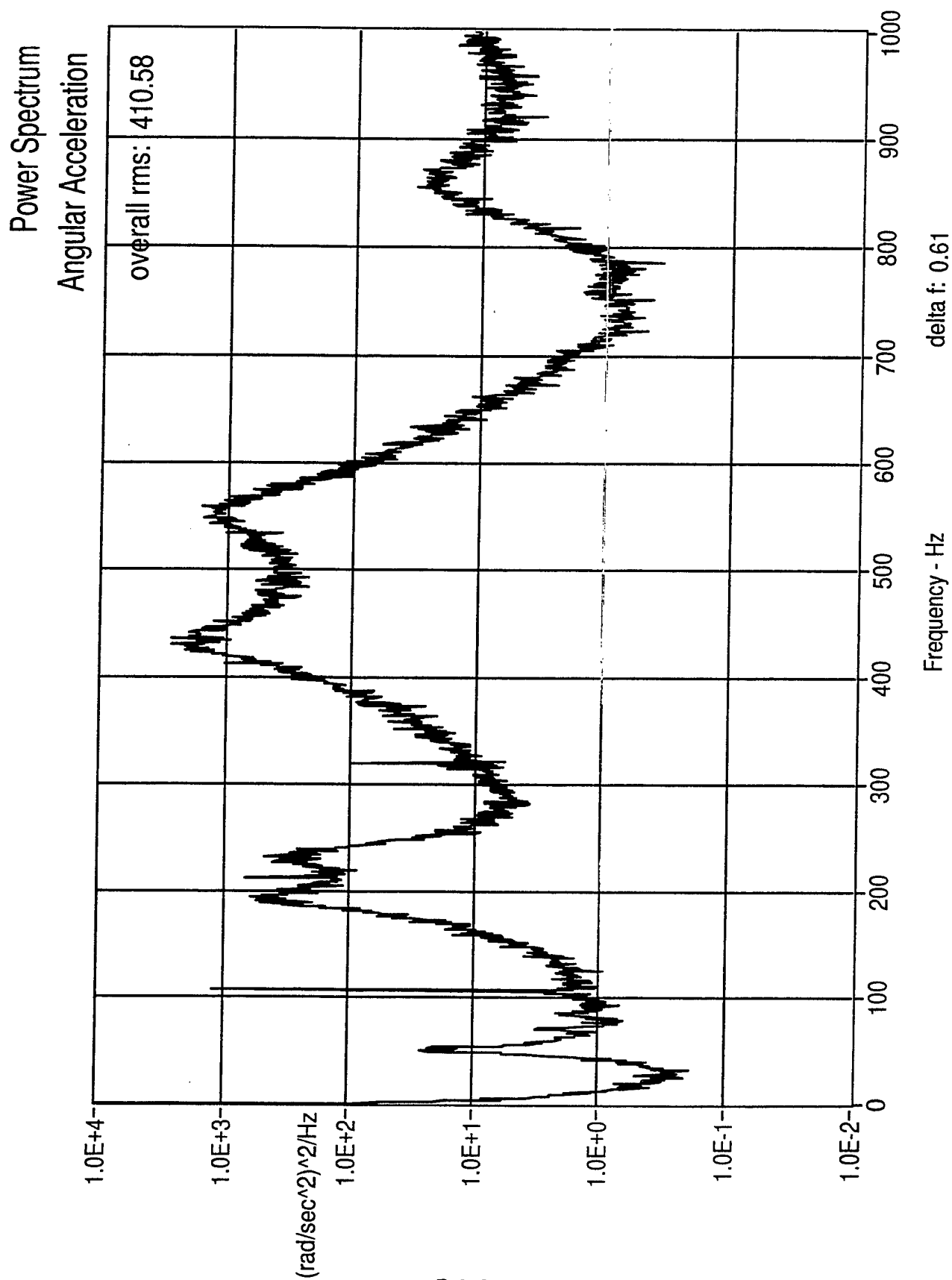
Q= 56 PSF

PSD GRAPHS

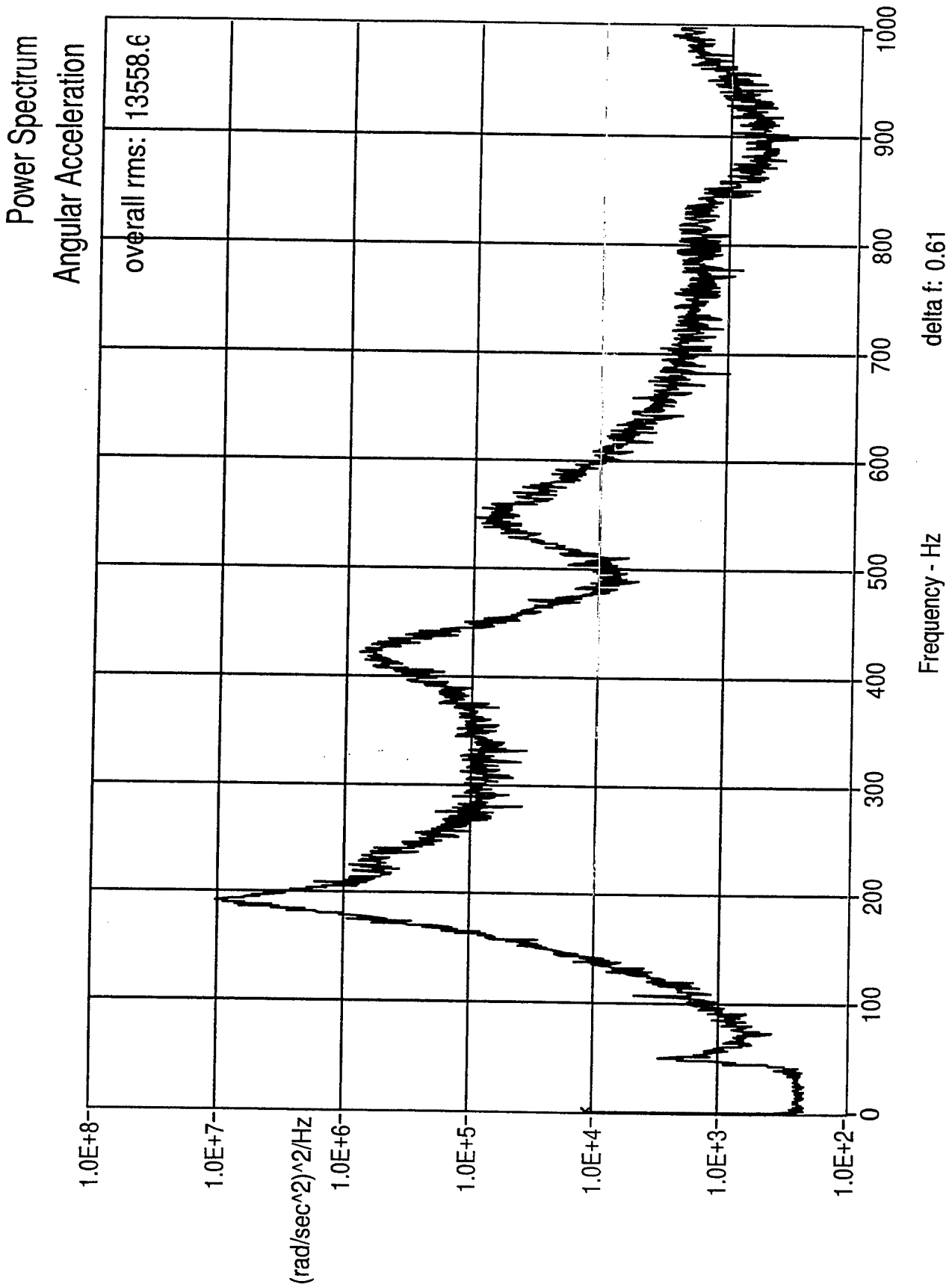
**4.1.1.3 TORSIONAL (ANGULAR AT EA) beta= 0, +4, -4 Deg, WBP = 0, 45, 65 psi
ALPHAS = 8, 20, 24, 32 DEG**

data is further blocked blocked off by blowing pressures, with beta variation within.

F-15 TPN_2864: alpha=8 beta=-4 bp=0

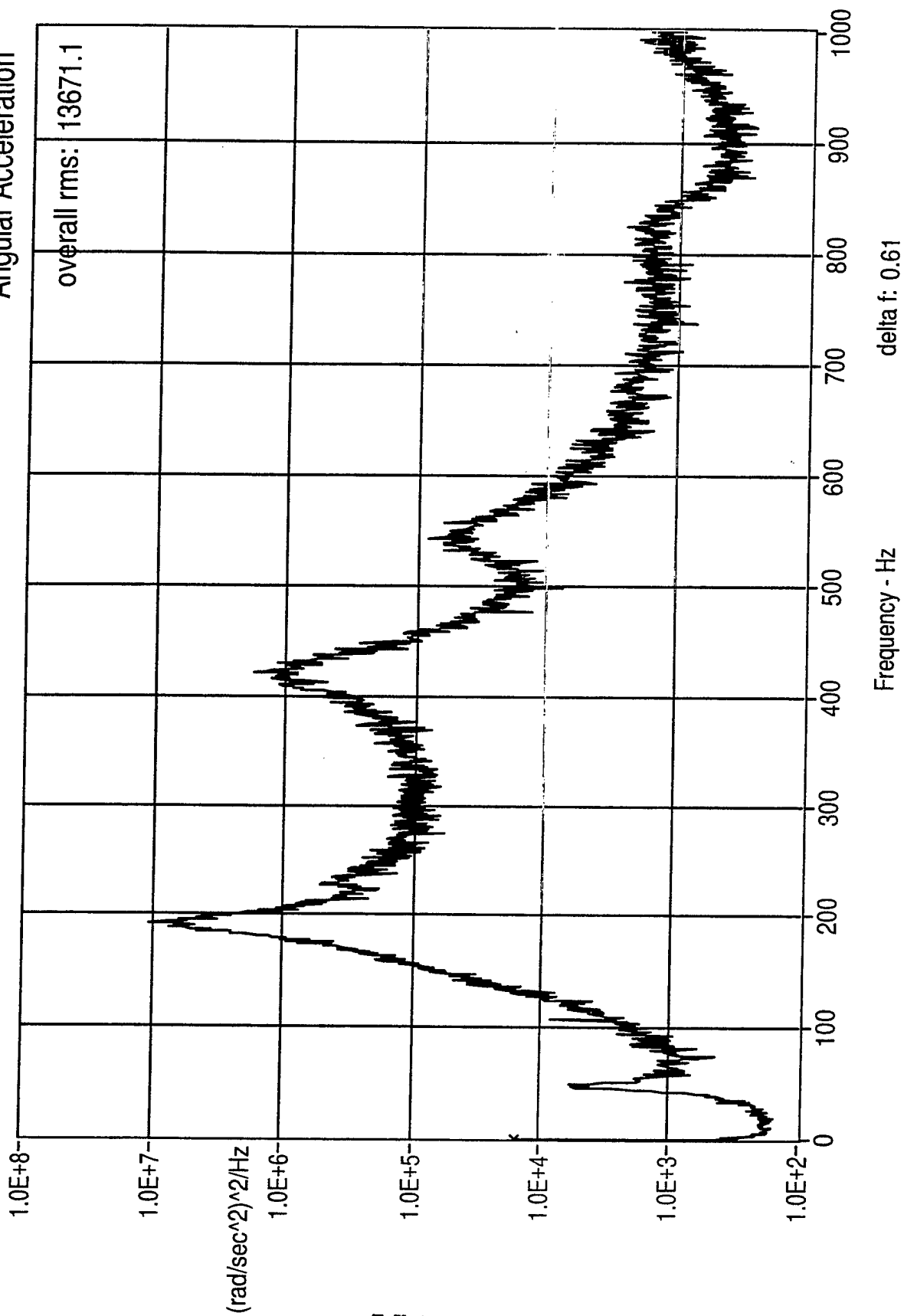


F-15 TPN_2870: alpha=20 beta=-4 bp=0

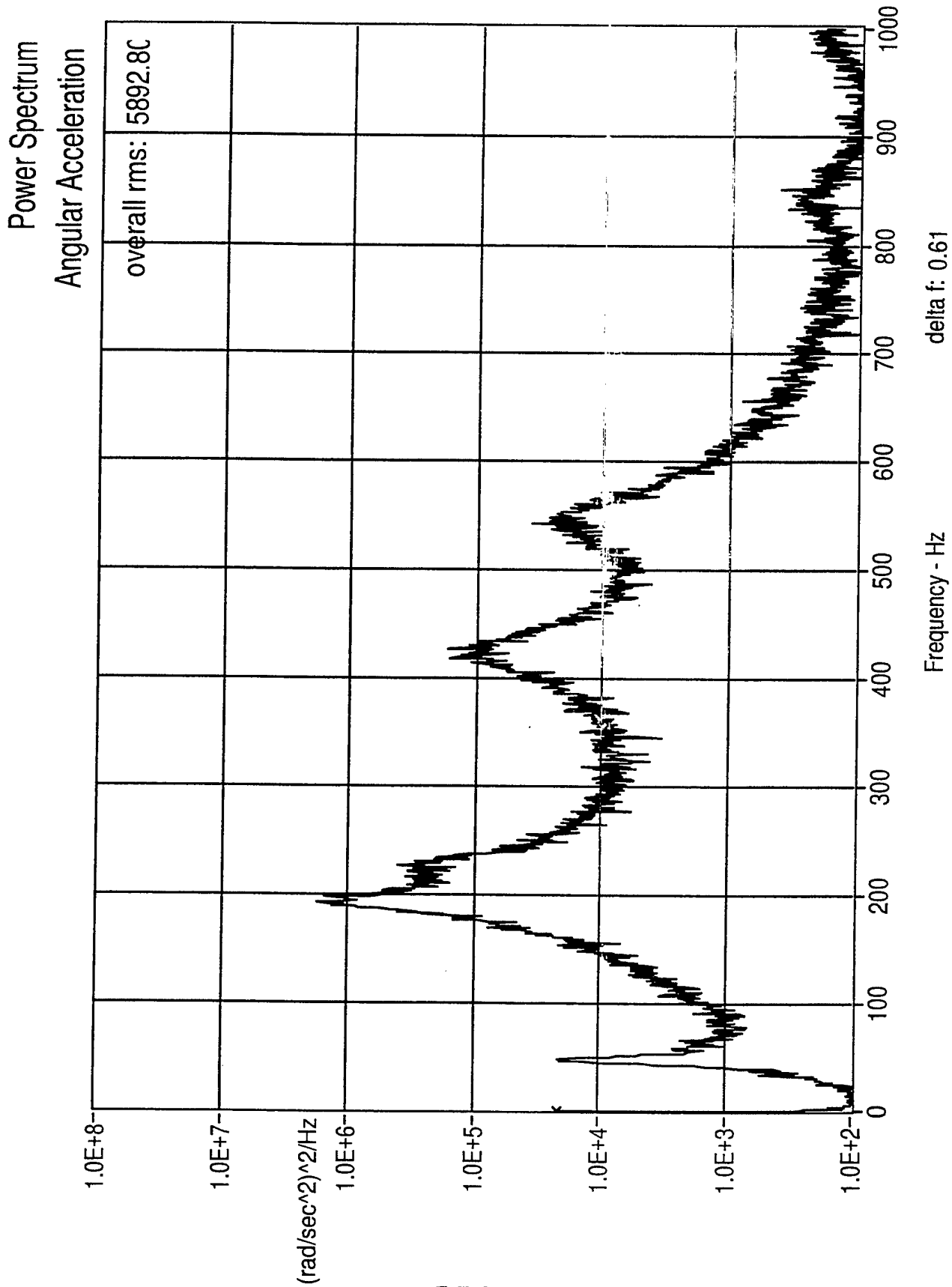


F-15 TPN_2872: alpha=24 beta=-4 bp=0

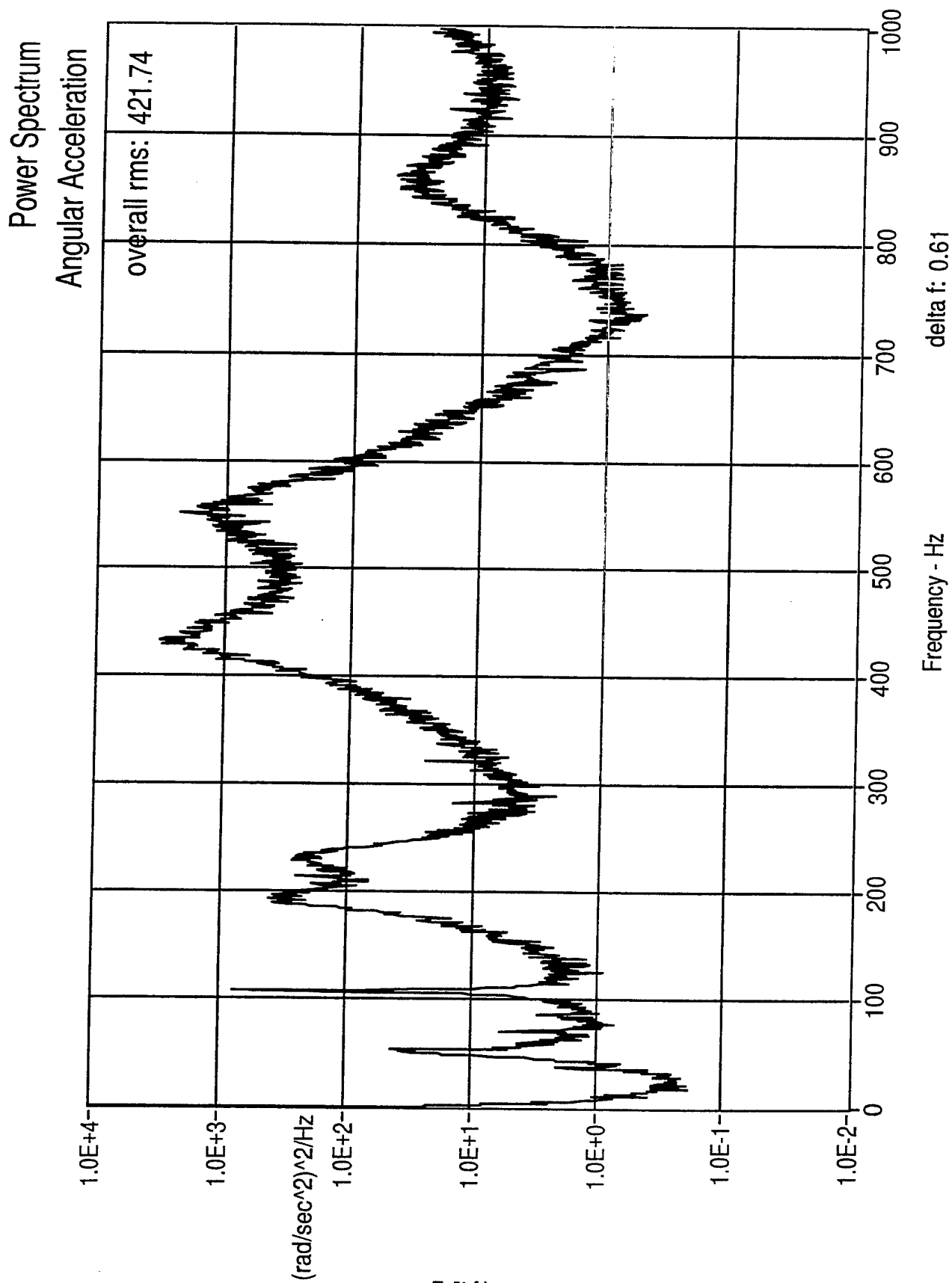
Power Spectrum
Angular Acceleration



F-15 TPN_2874: alpha=32 beta=-4 bp=0

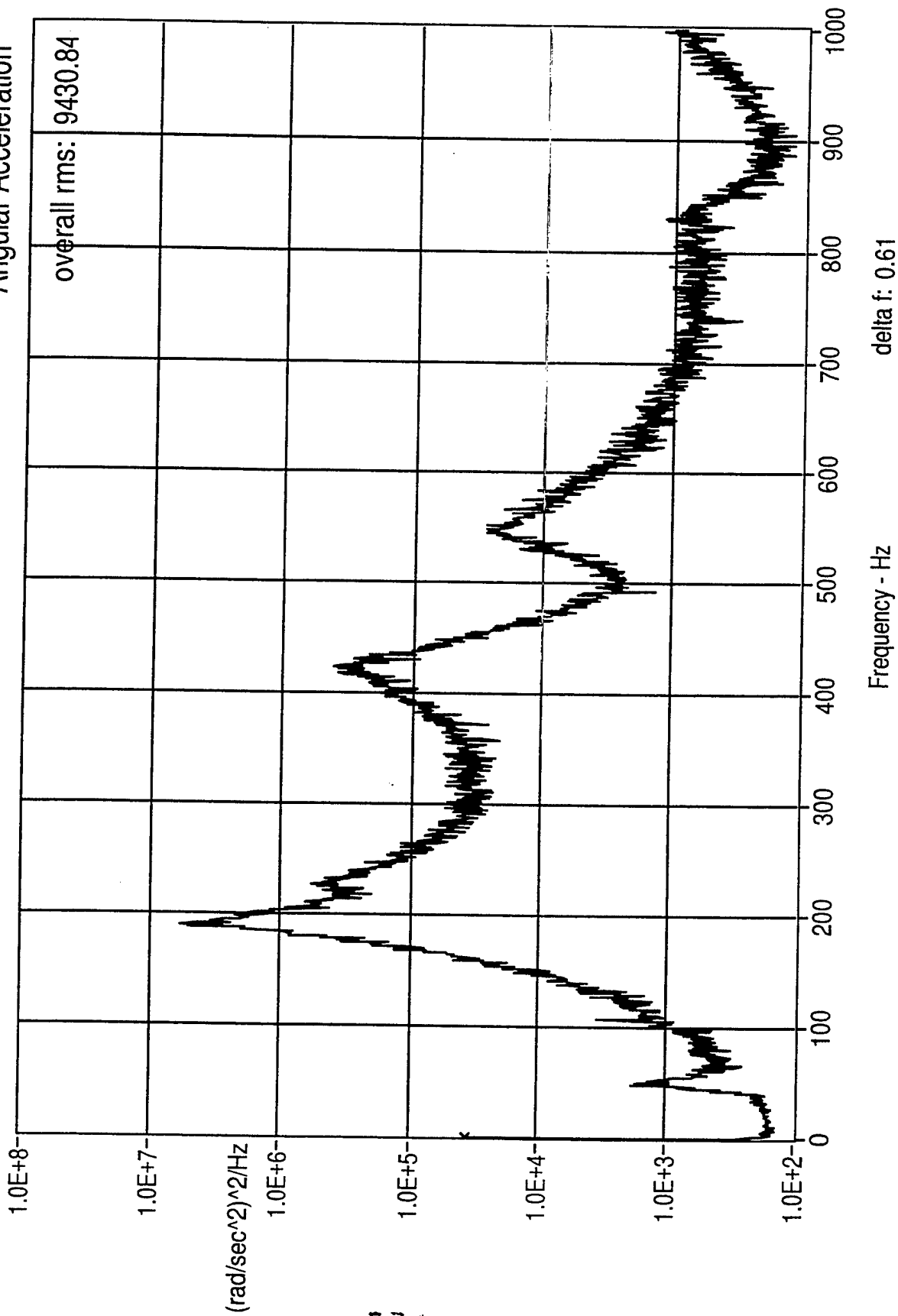


F-15 TPN_2844: alpha=8 beta=0 bp=0

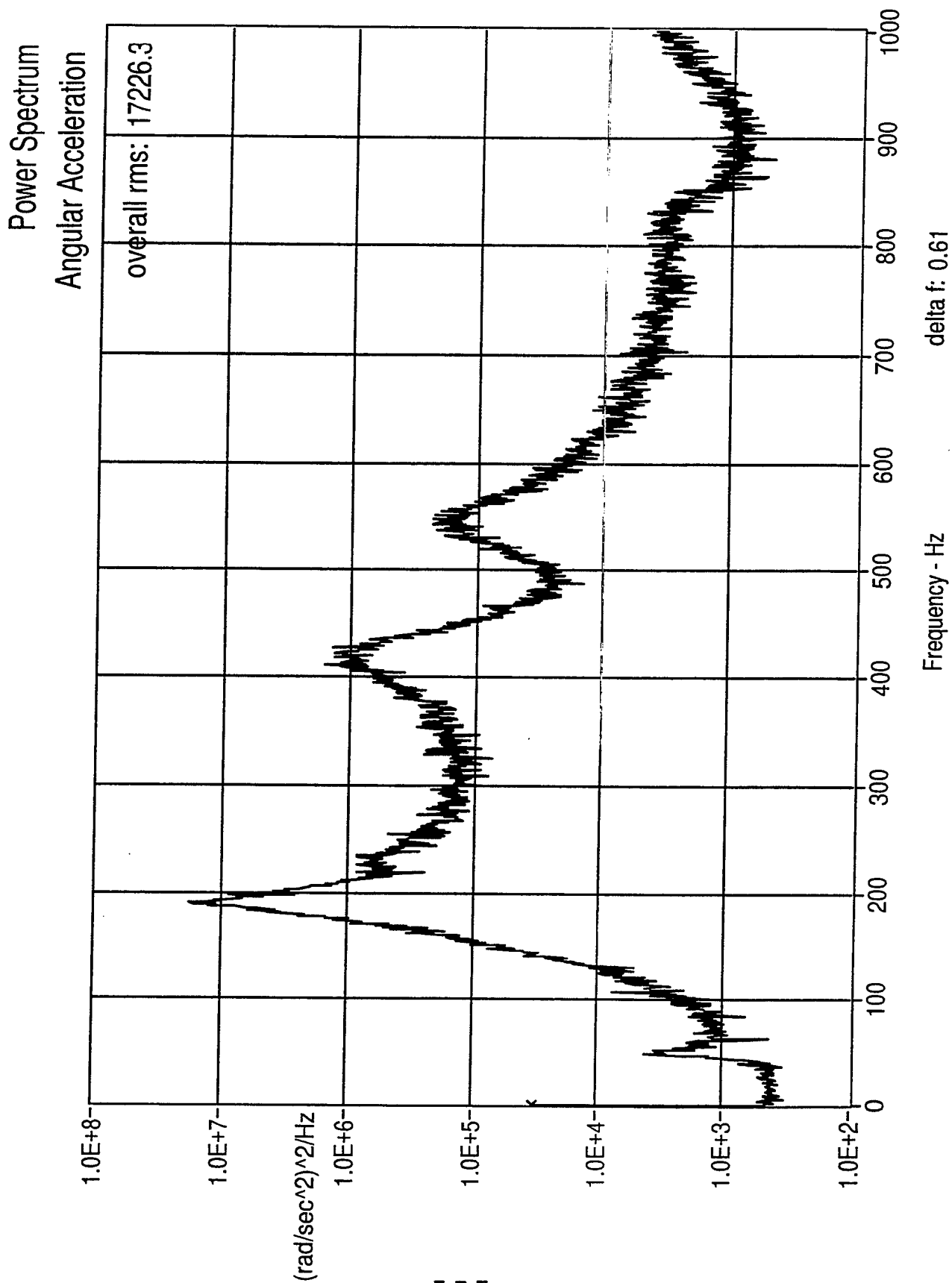


F-15 TPN_2850: alpha=20 beta=0 bp=0

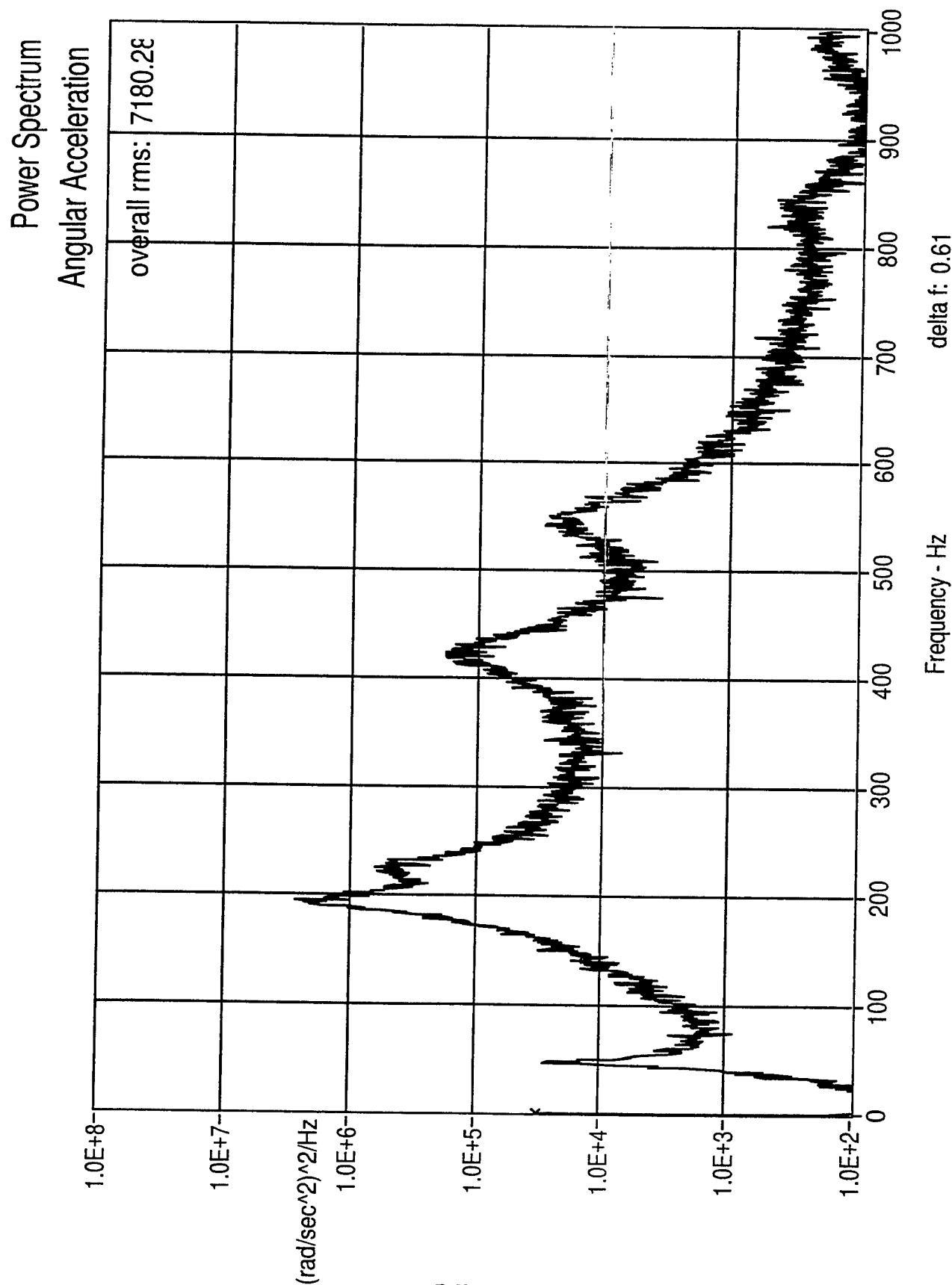
Power Spectrum
Angular Acceleration



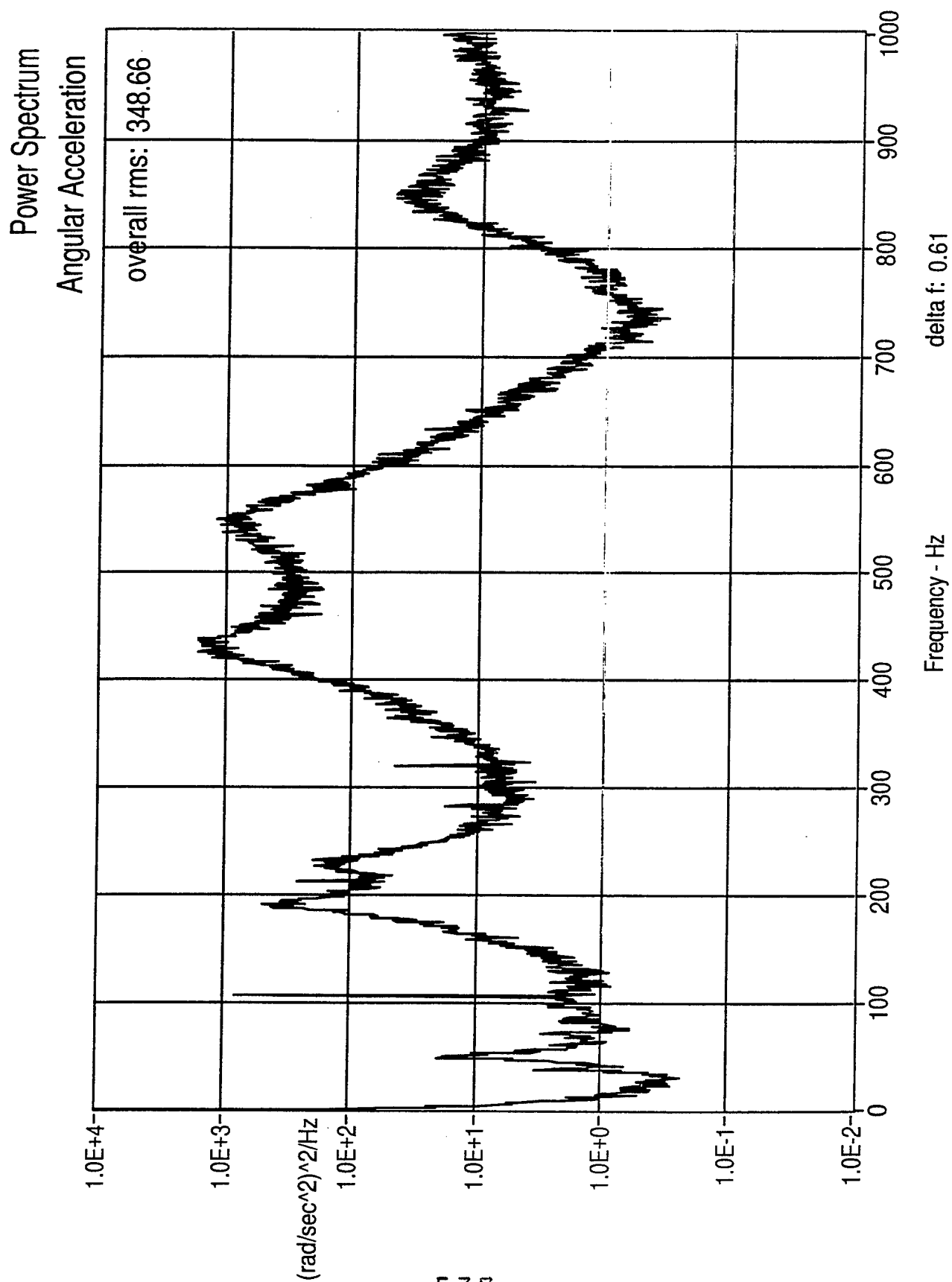
F-15 TPN_2852: alpha=24 beta=0 bp=0



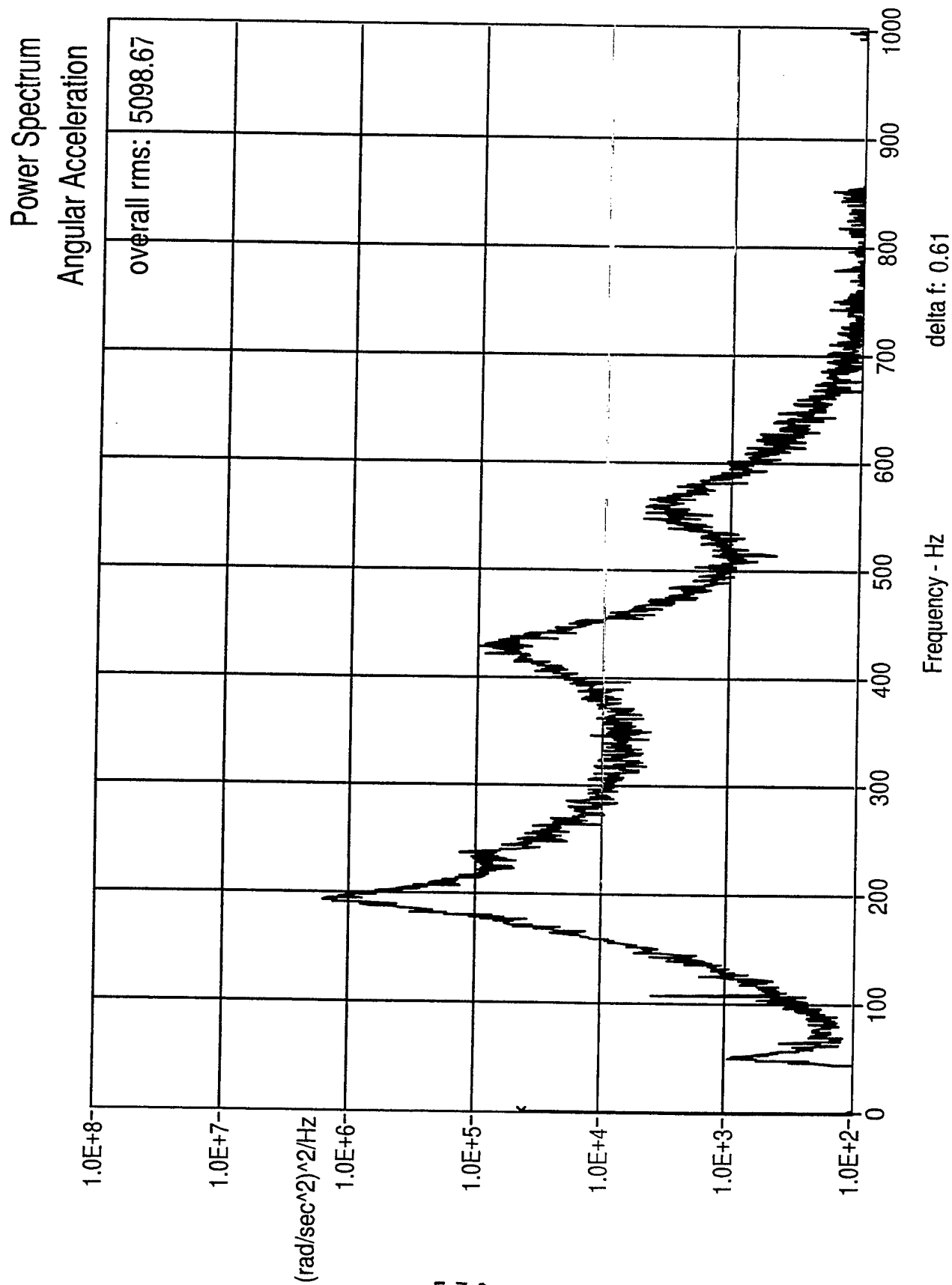
F-15 TPN_2854: alpha=32 beta=0 bp=0



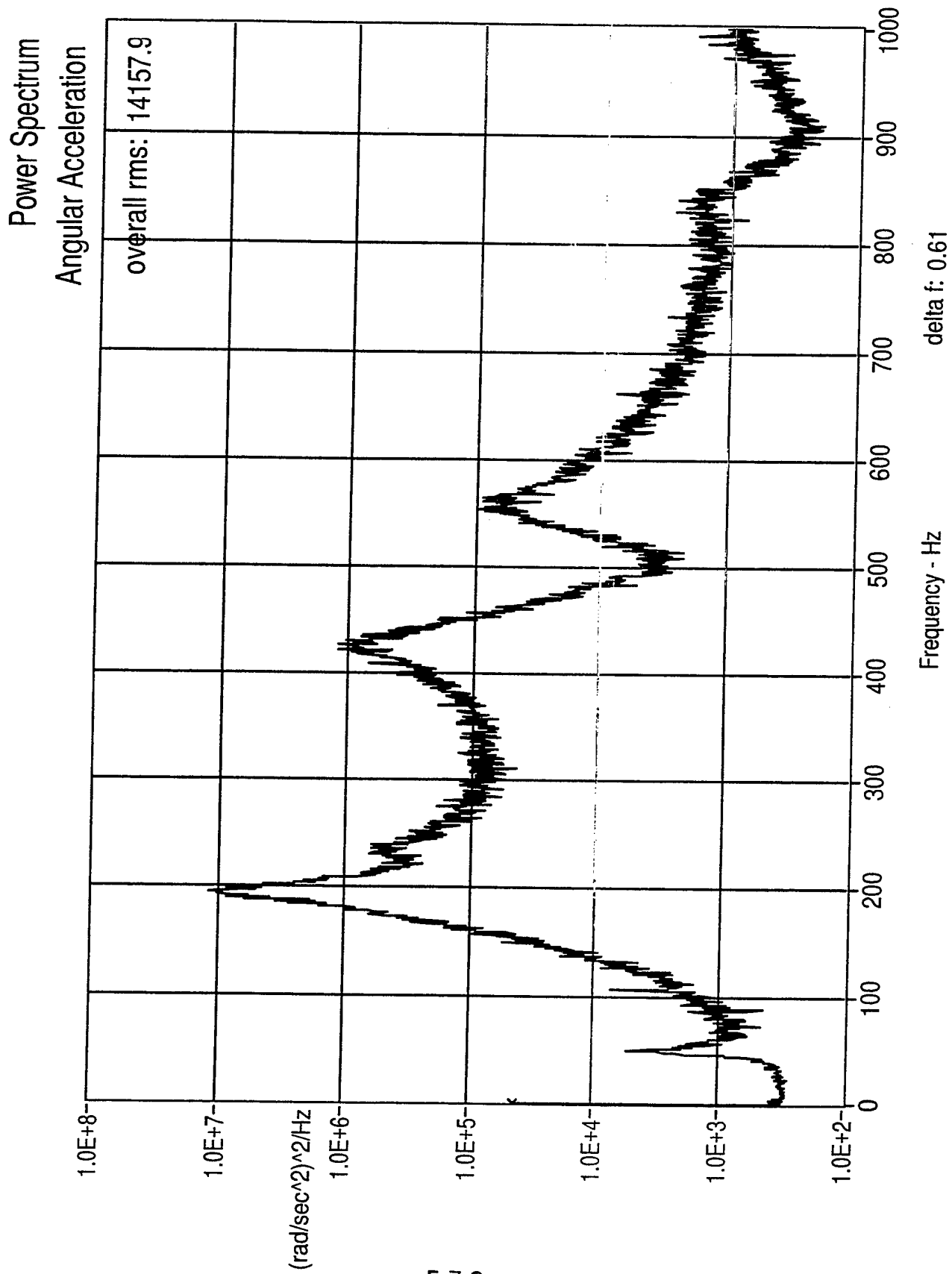
F-15 TPN_2918: alpha=8 beta=4 bp=0



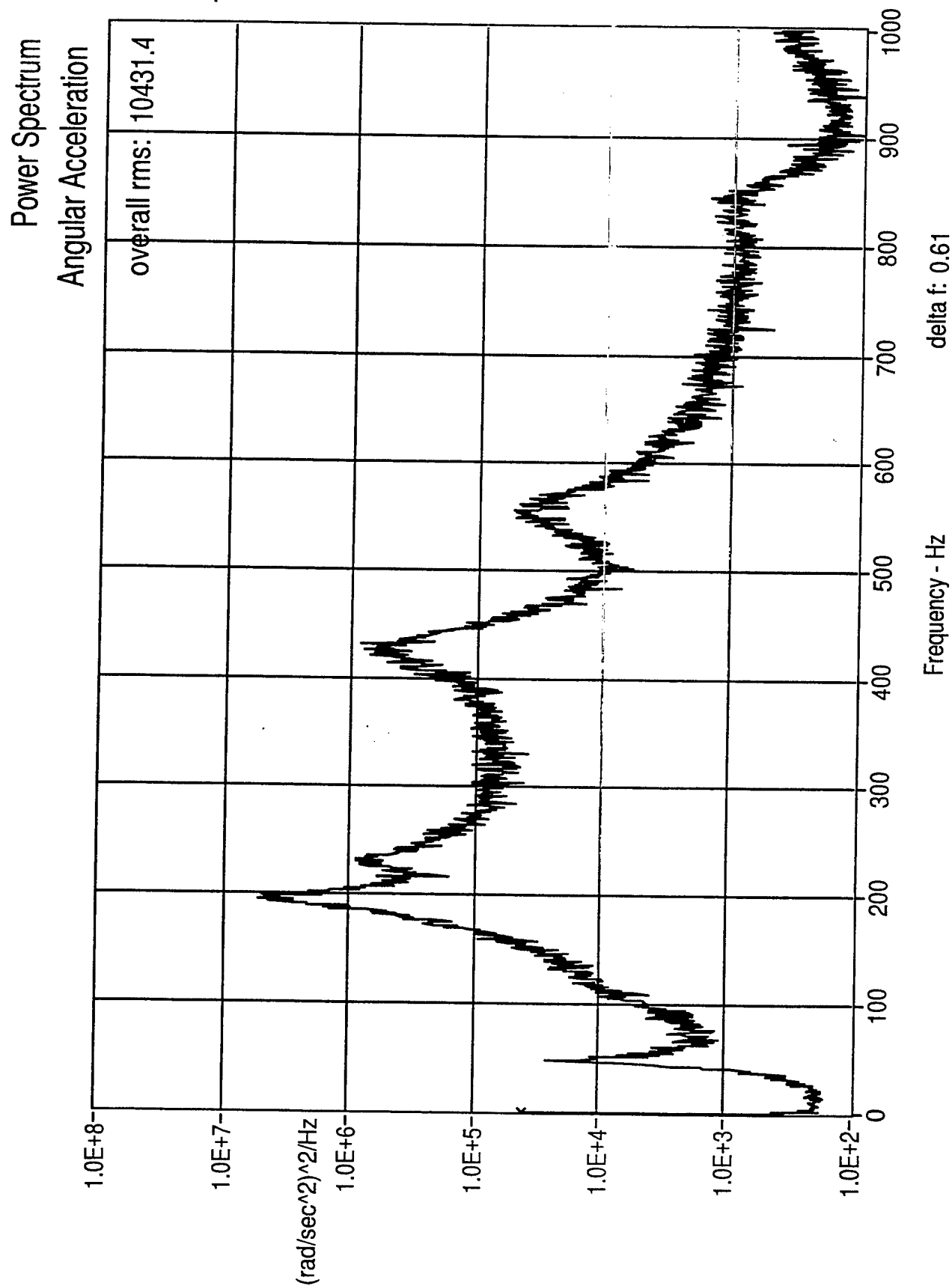
F-15 TPN_2924: alpha=20 beta=4 bp=0



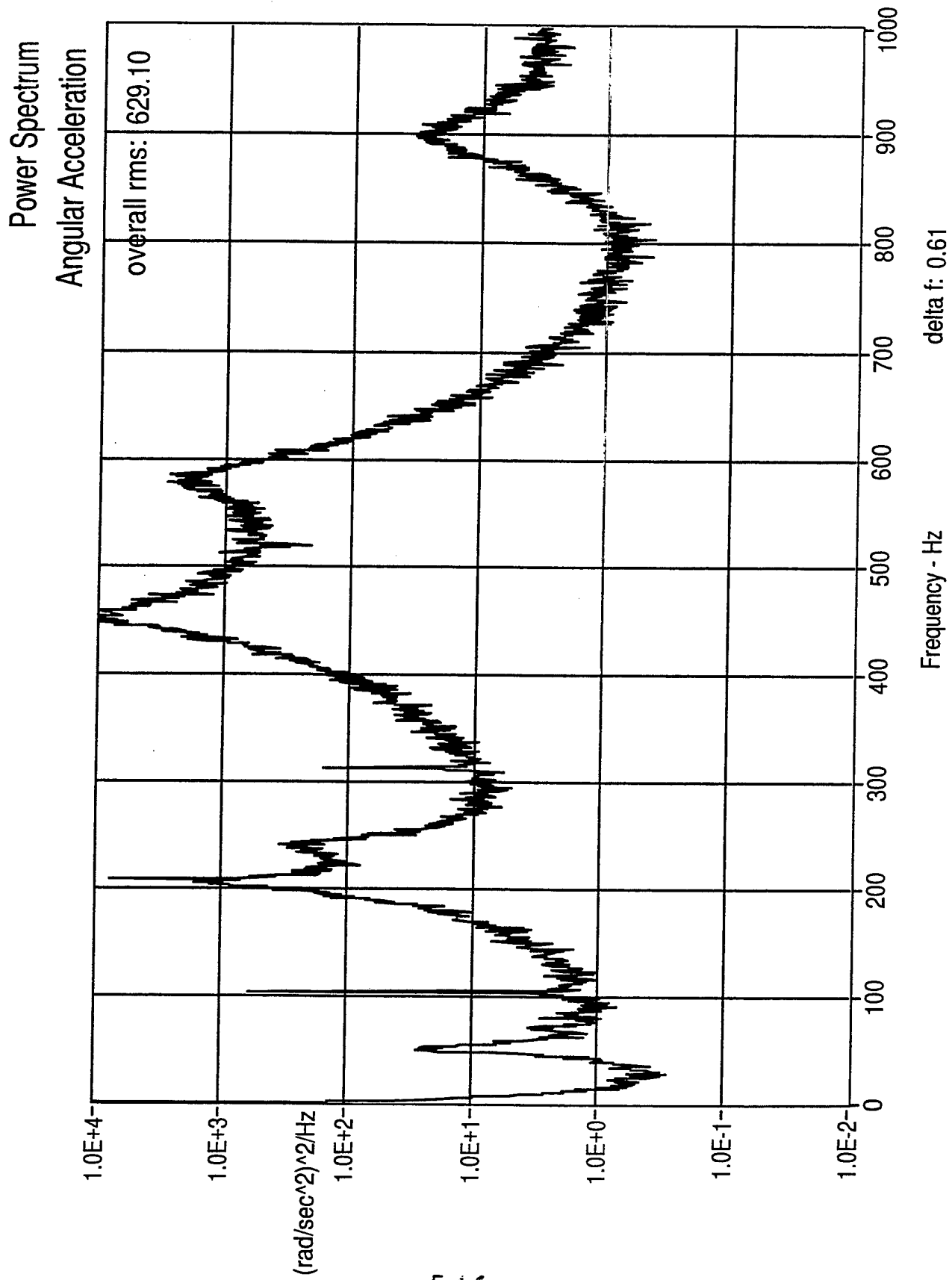
F-15 TPN_2926: alpha=24 beta=4 bp=0



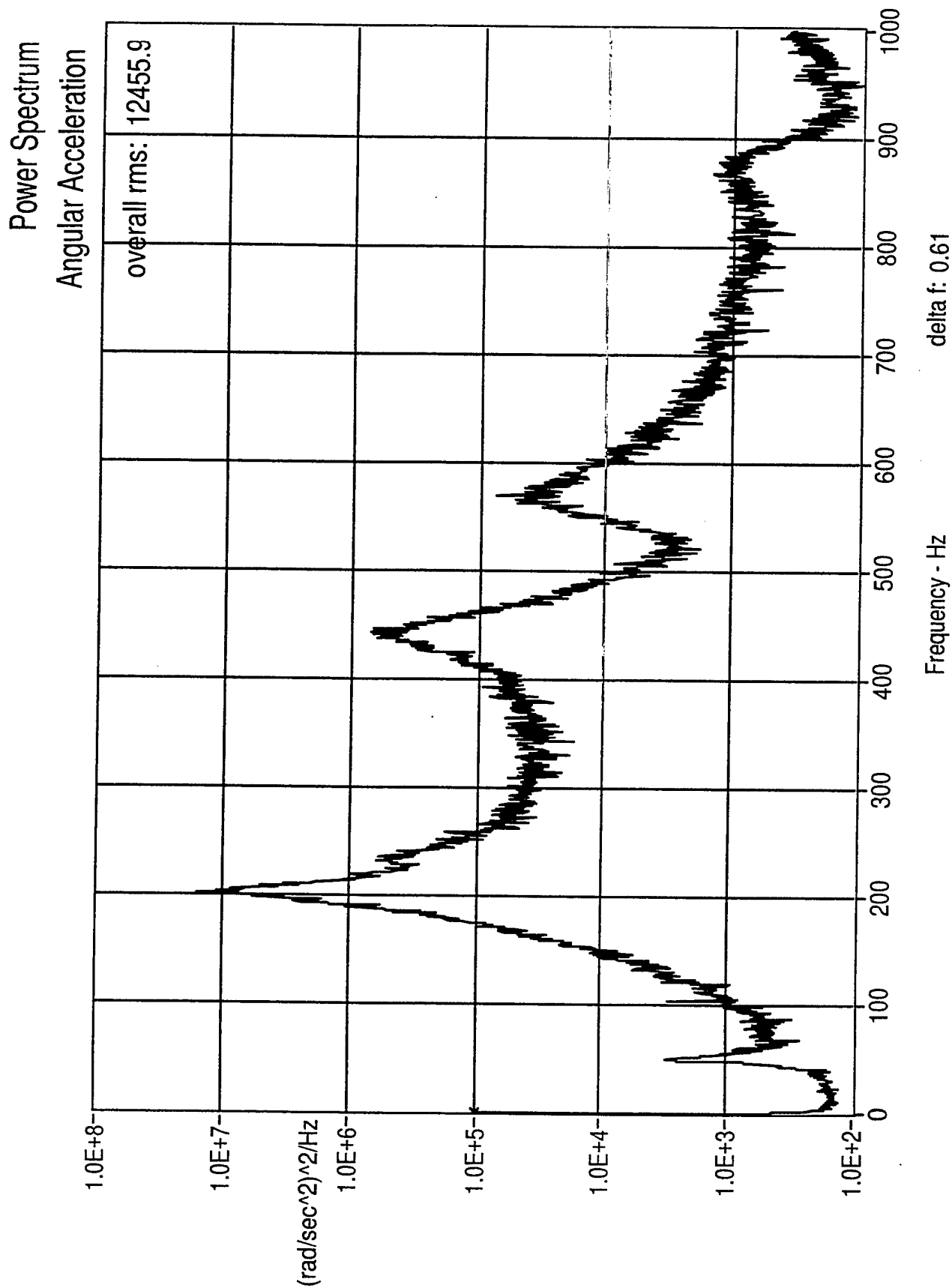
F-15 TPN_2928: alpha=32 beta=4 bp=0



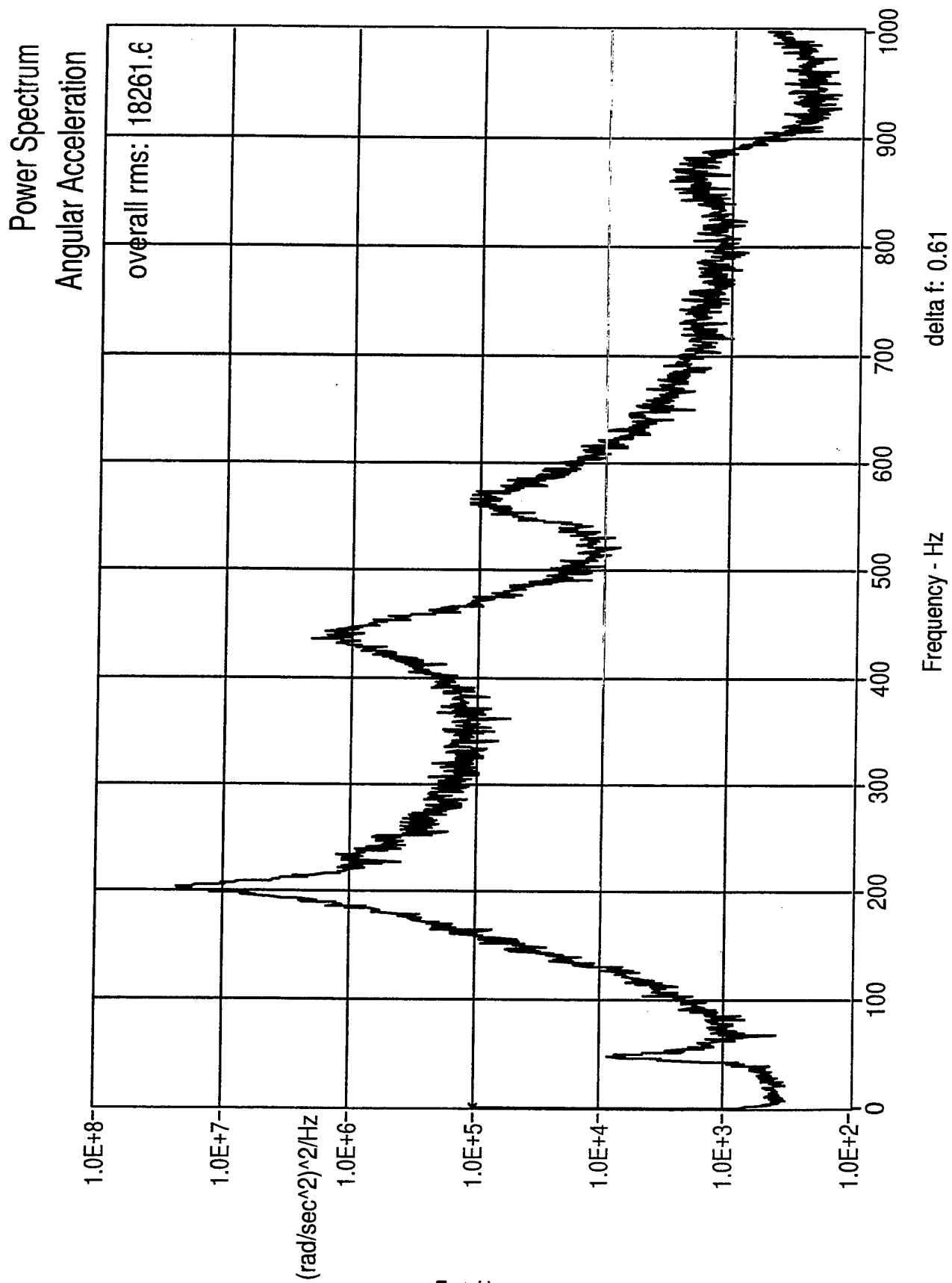
F-15 TPN_3369: alpha=8 beta=-4 bp=45



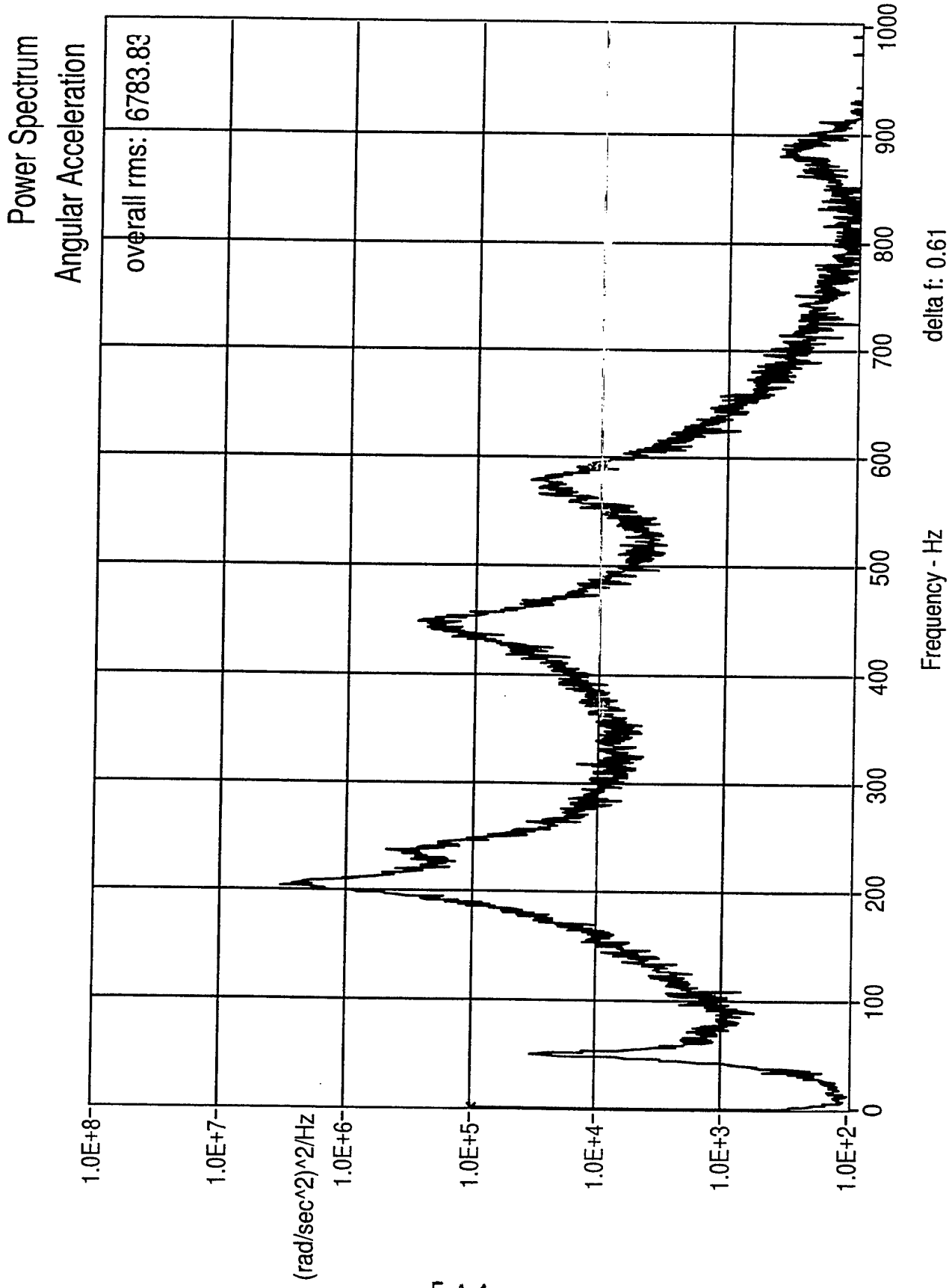
F-15 TPN_3375: alpha=20 beta=-4 bp=45



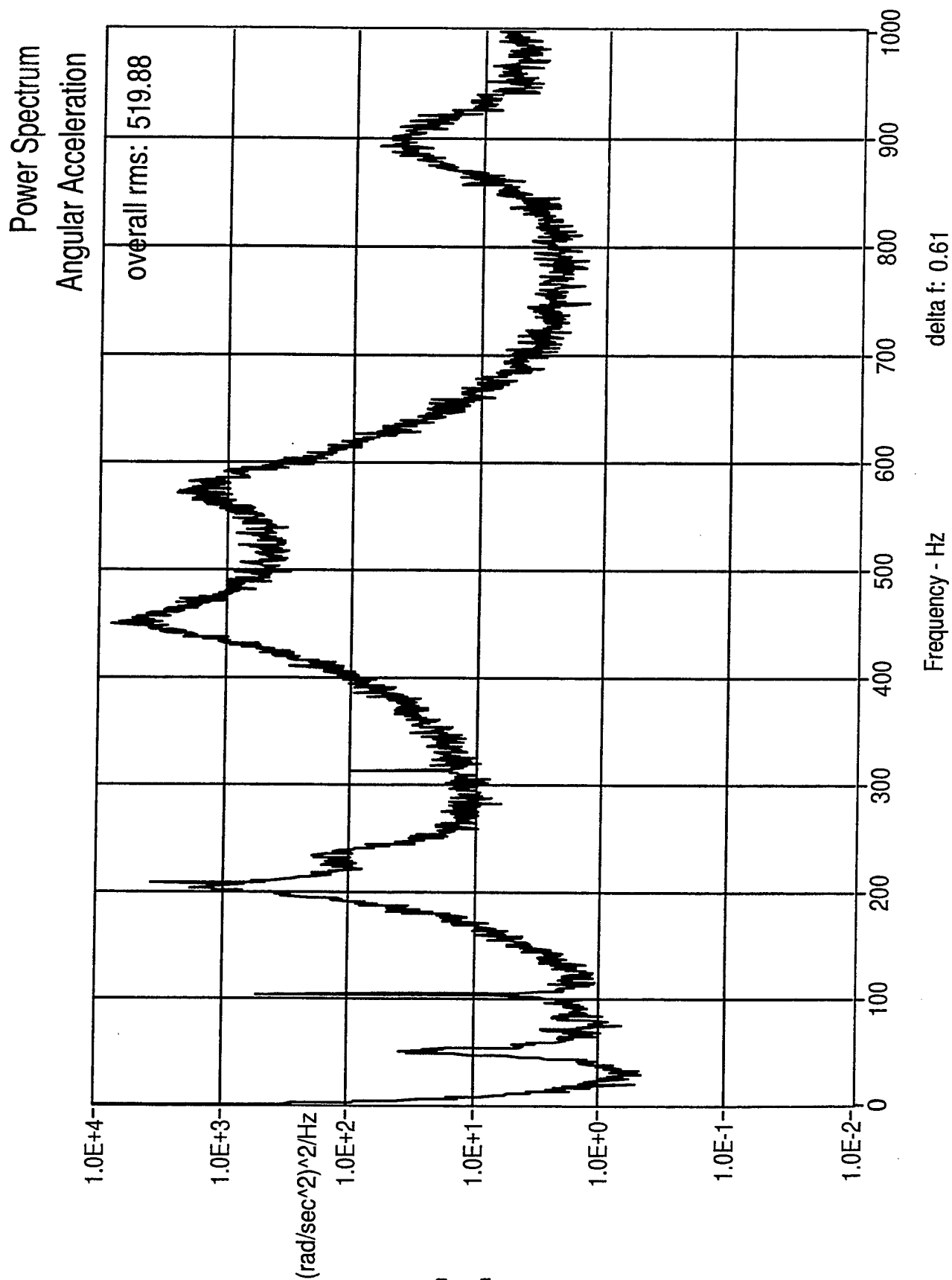
F-15 TPN_3377: alpha=24 beta=-4 bp=45



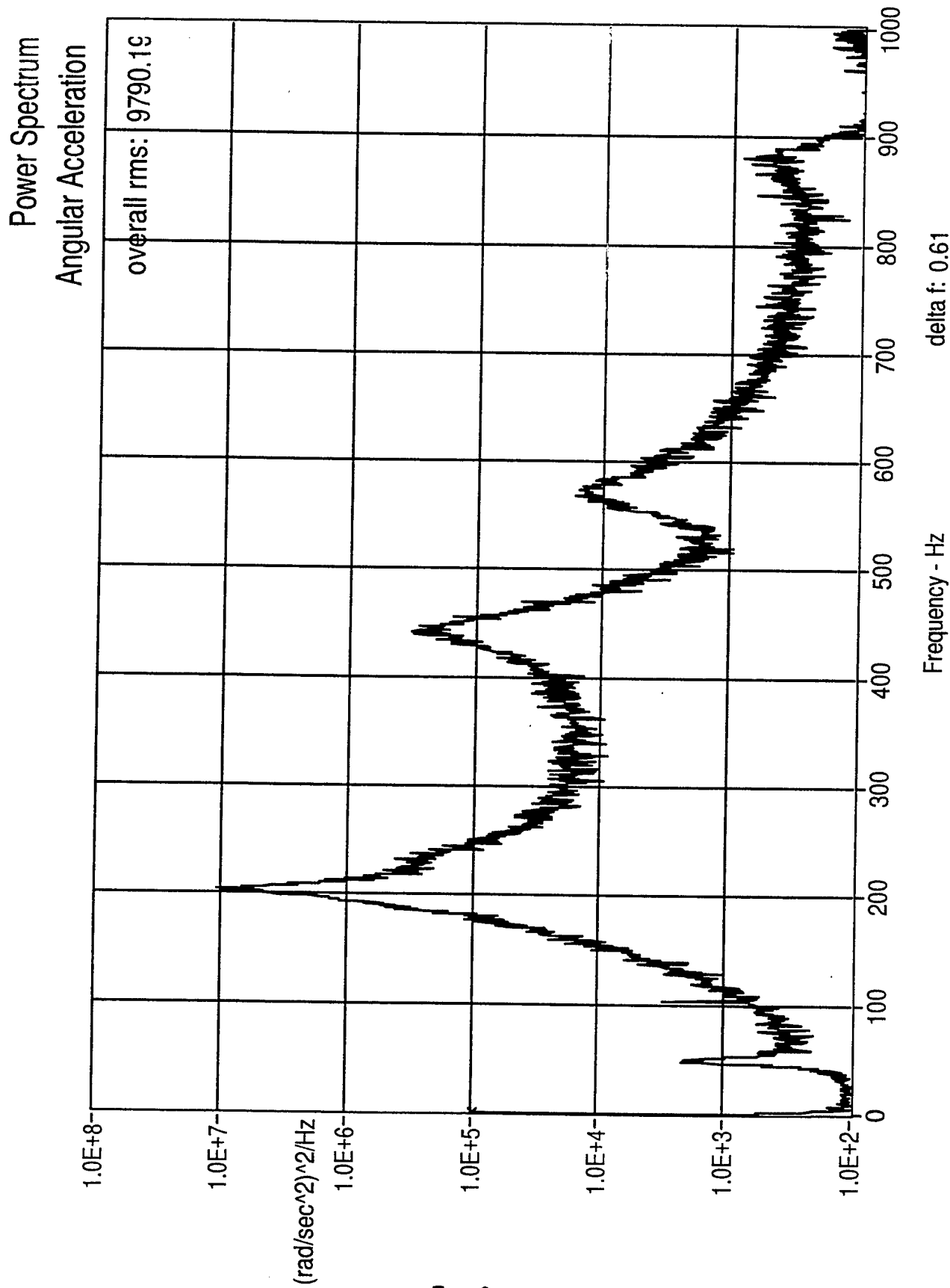
F-15 TPN_3379: alpha=32 beta=-4 bp=45



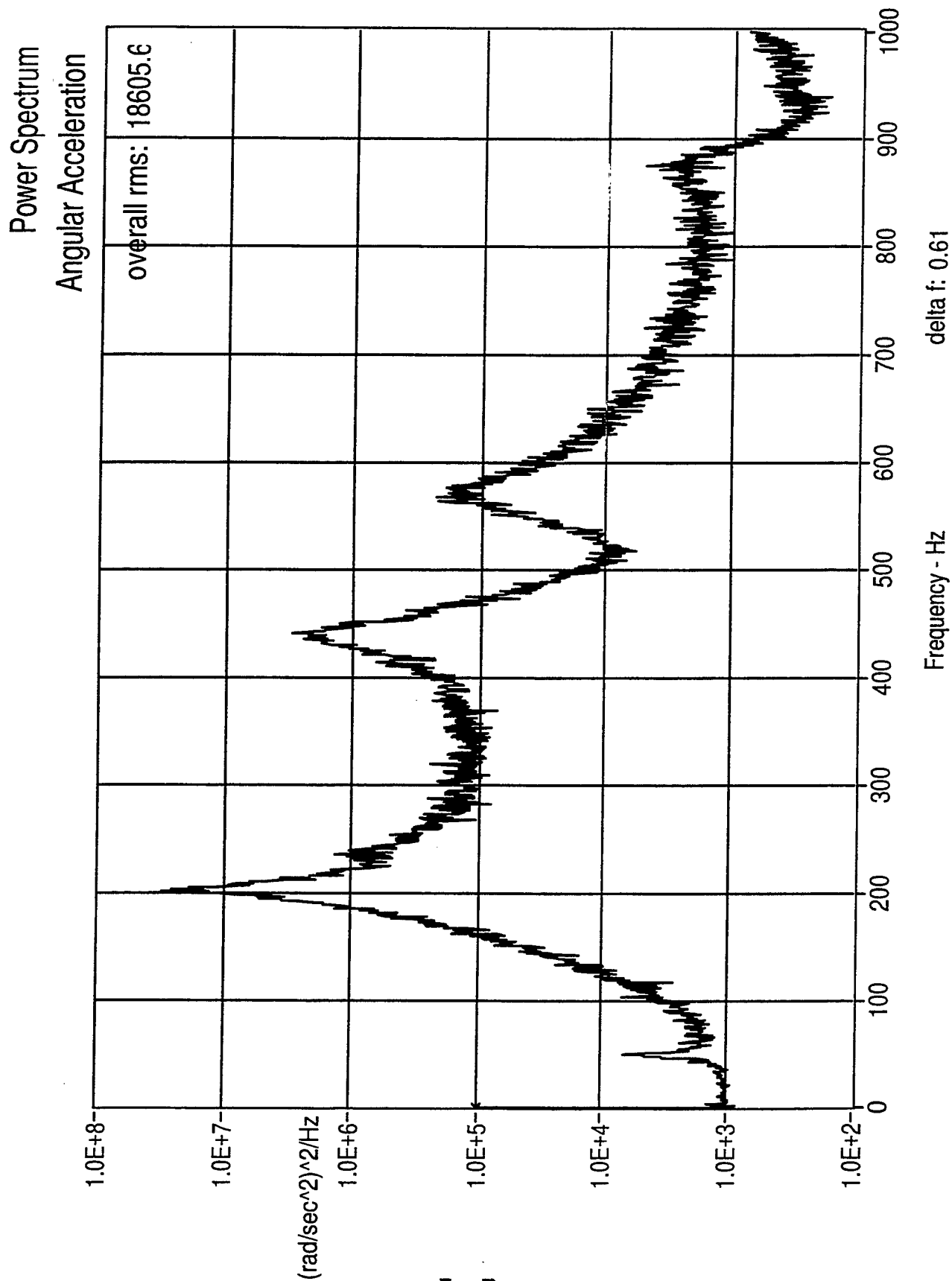
F-15 TPN_3333: alpha=8 beta=0 bp=45

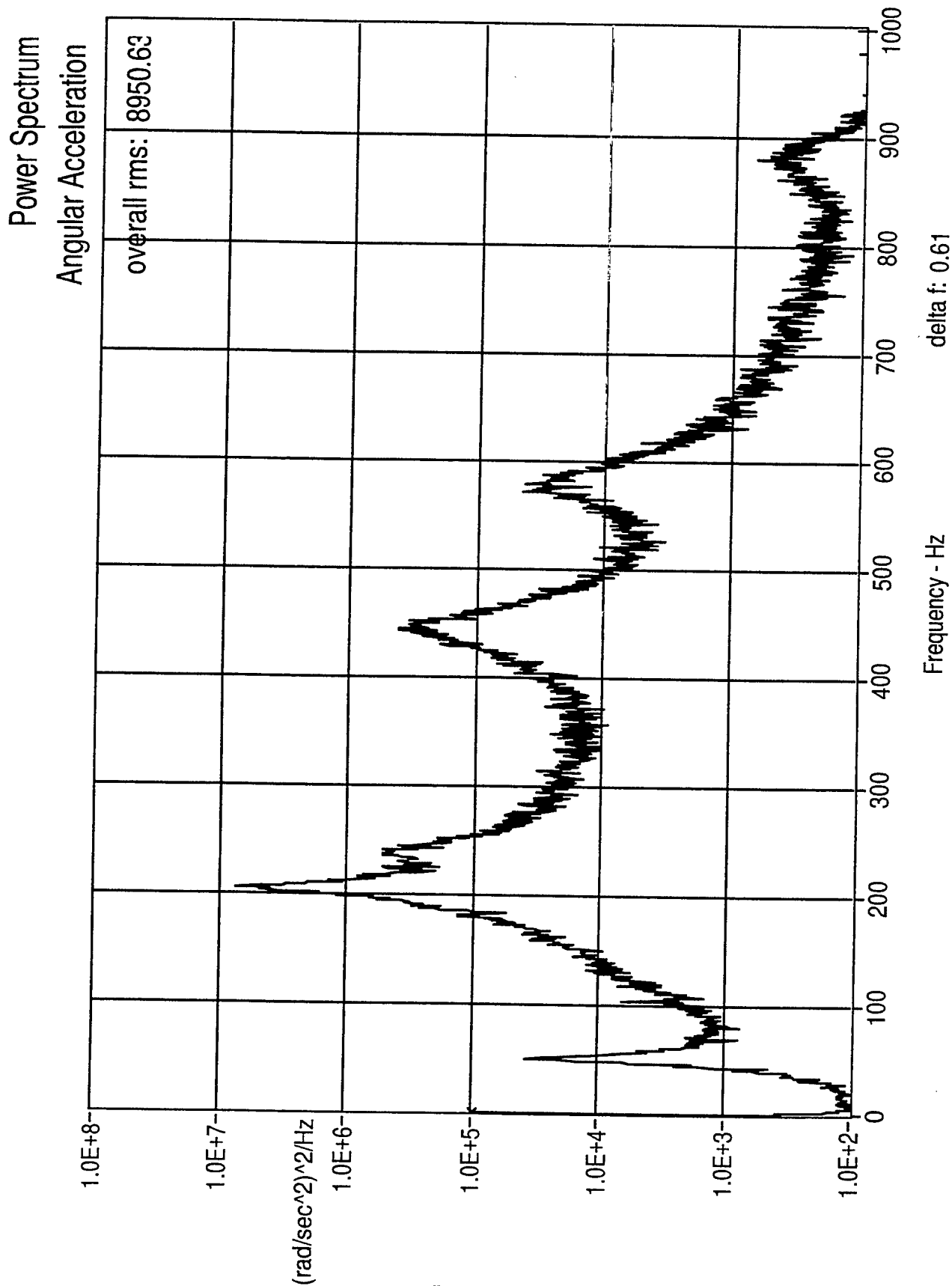


F-15 TPN_3339: alpha=20 beta=0 bp=45

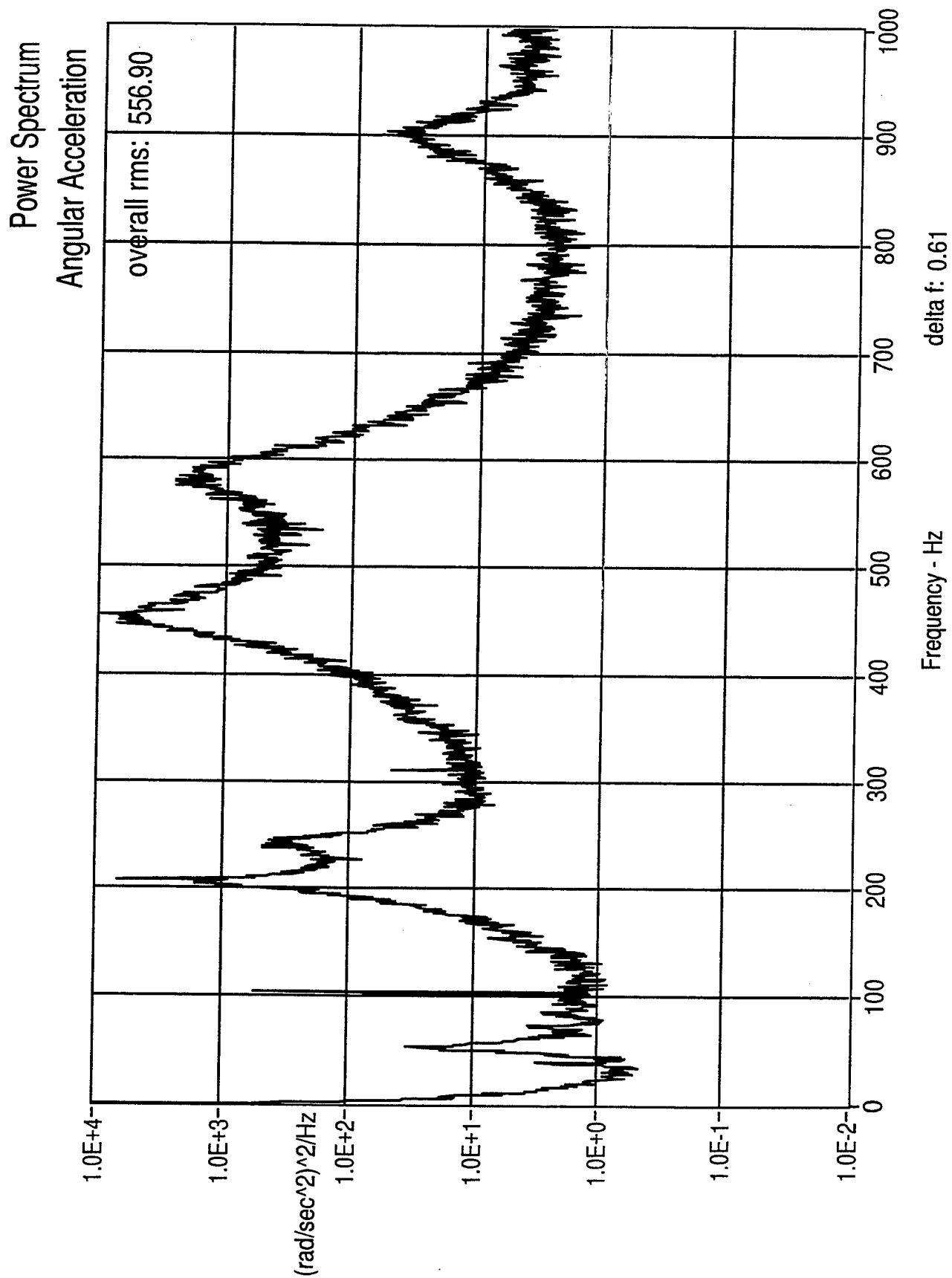


F-15 TPN_3341: alpha=24 beta=0 bp=45

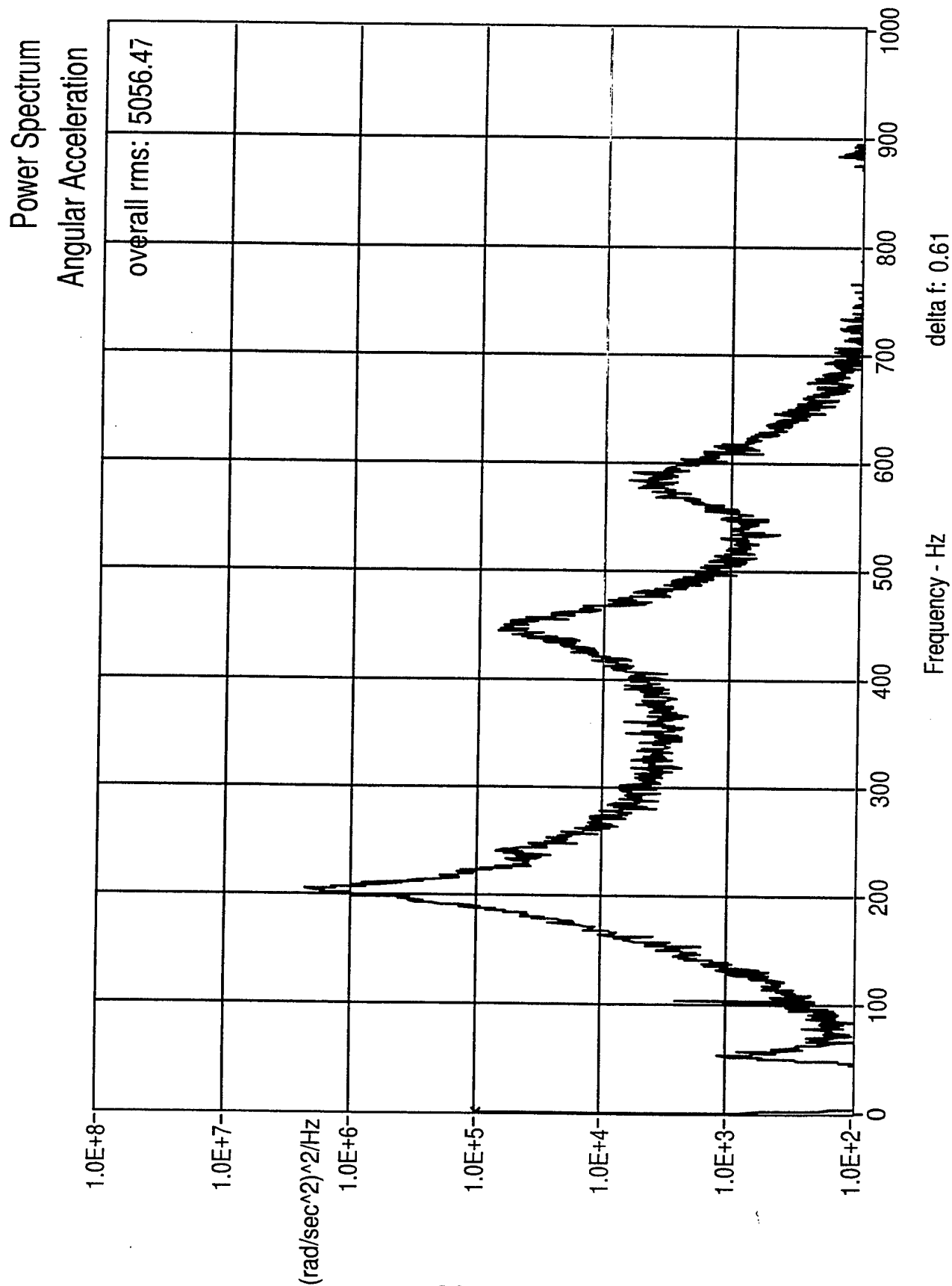




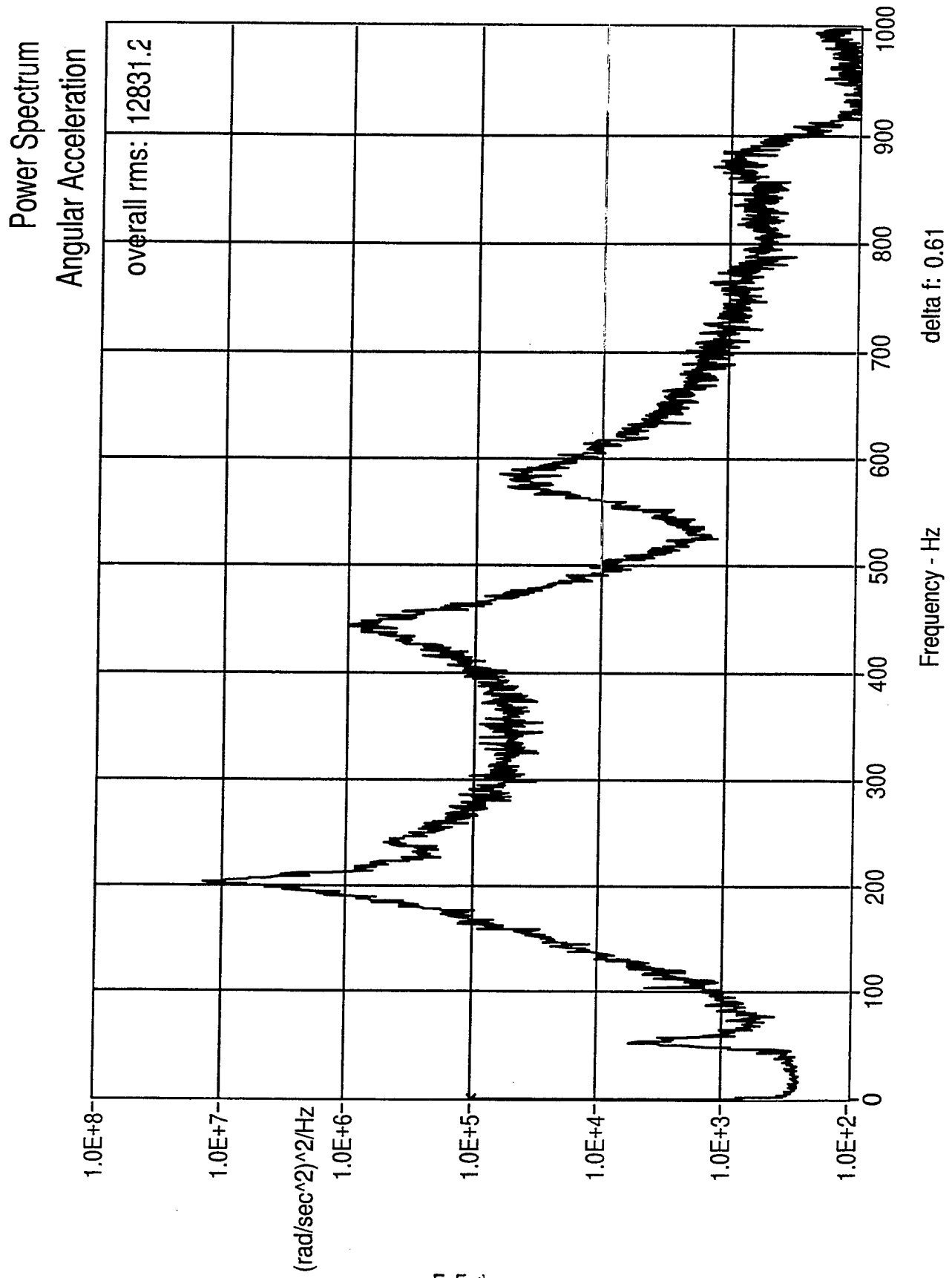
F-15 TPN_3351: alpha=8 beta=4 bp=45



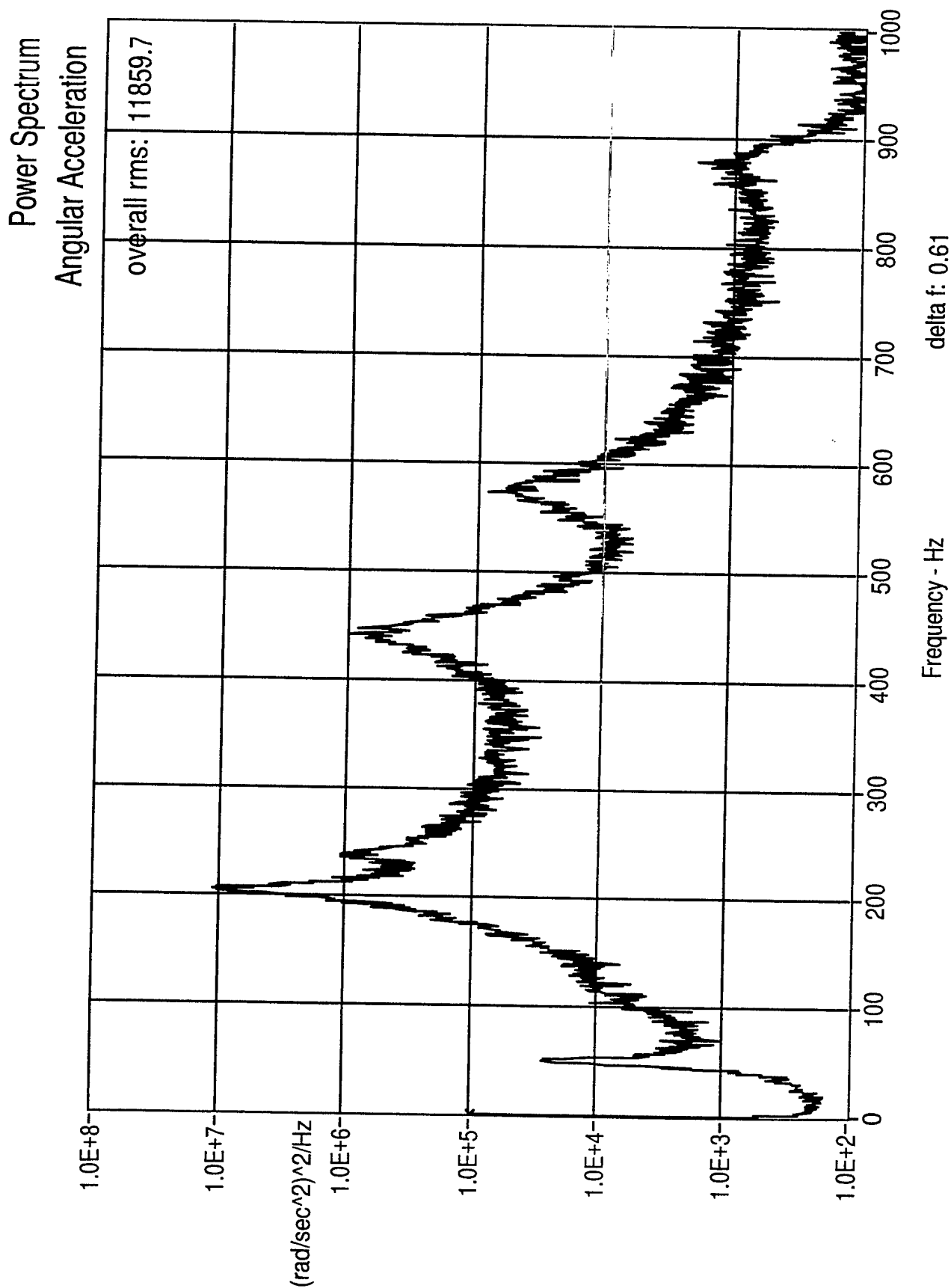
F-15 TPN_3357: alpha=20 beta=4 bp=45



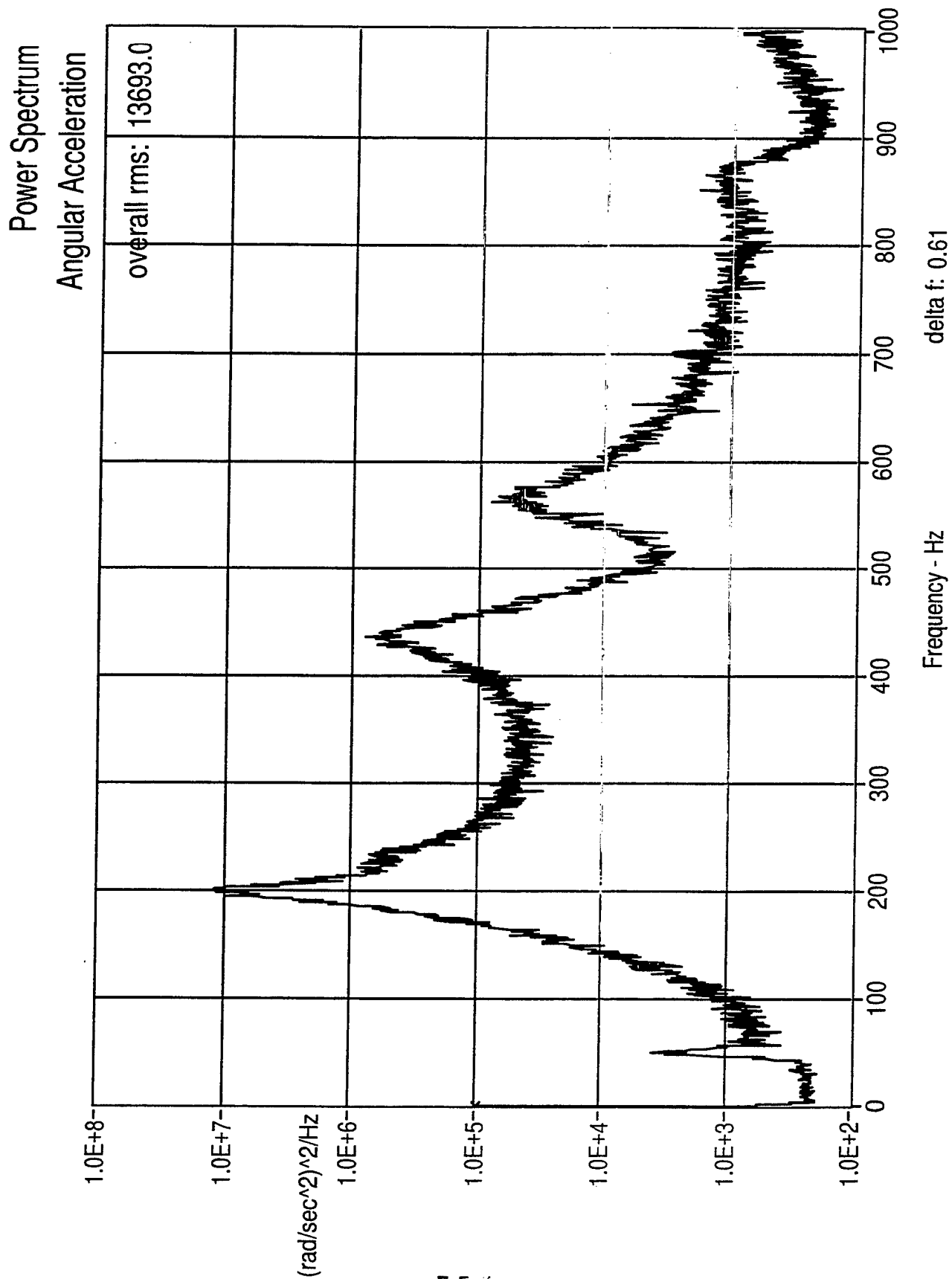
F-15 TPN_3359: alpha=24 beta=4 bp=45



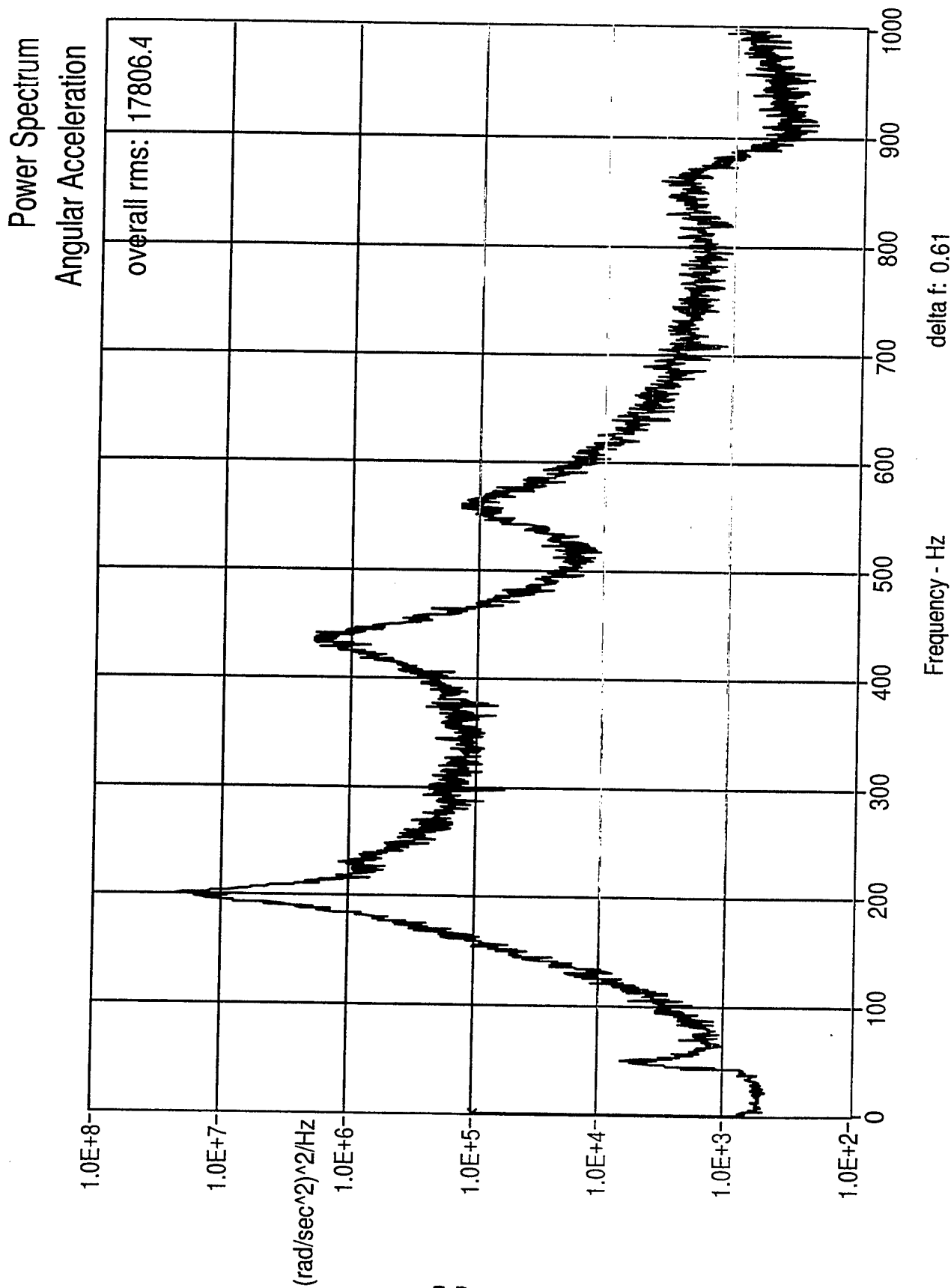
F-15 TPN_3361: alpha=32 beta=4 bp=45



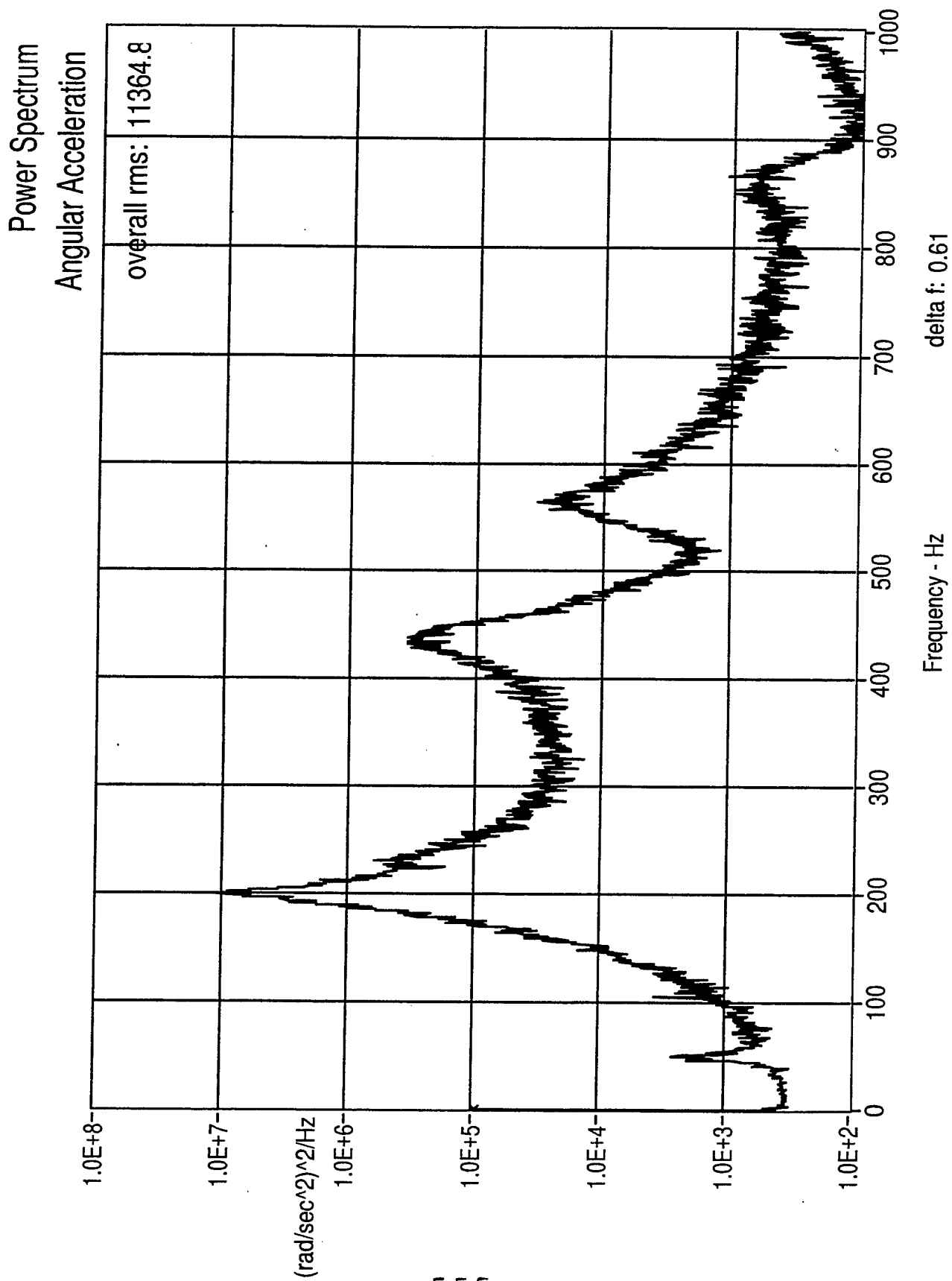
F-15 TPN_3034: alpha=20 beta=-4 bp=65



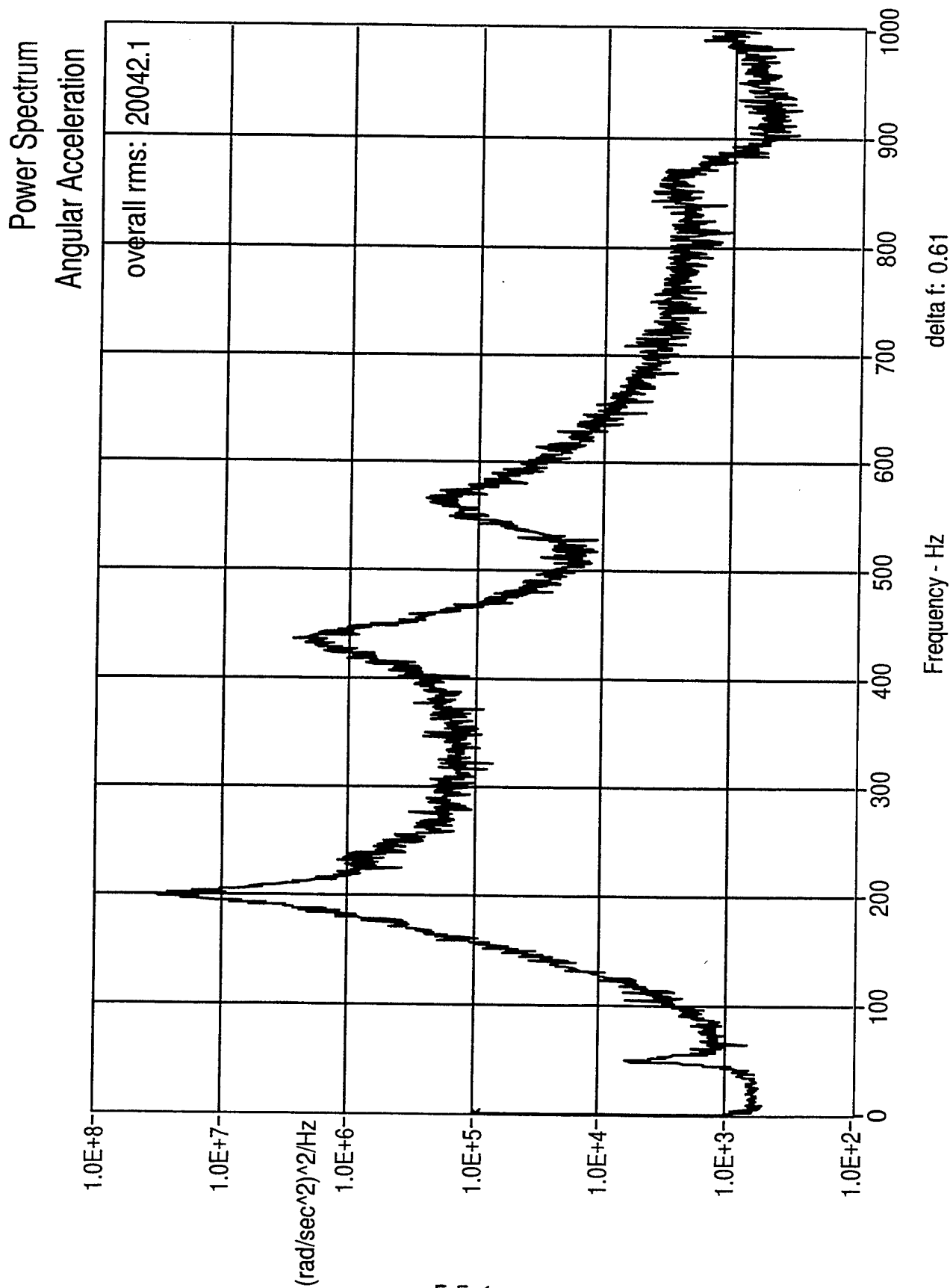
F-15 TPN_3036: alpha=24 beta=-4 bp=65



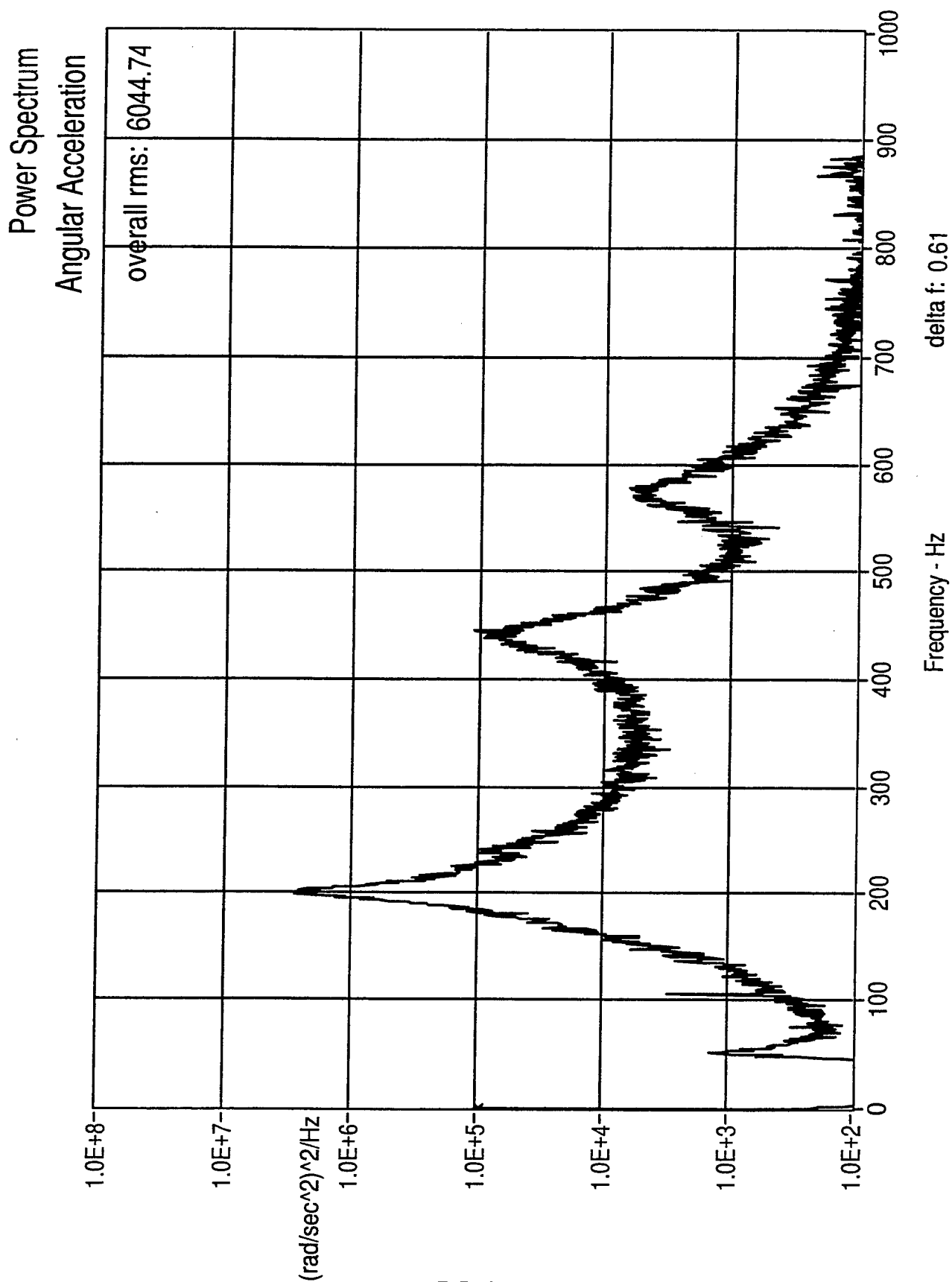
F-15 TPN_3040: alpha=20 beta=0 bp=65



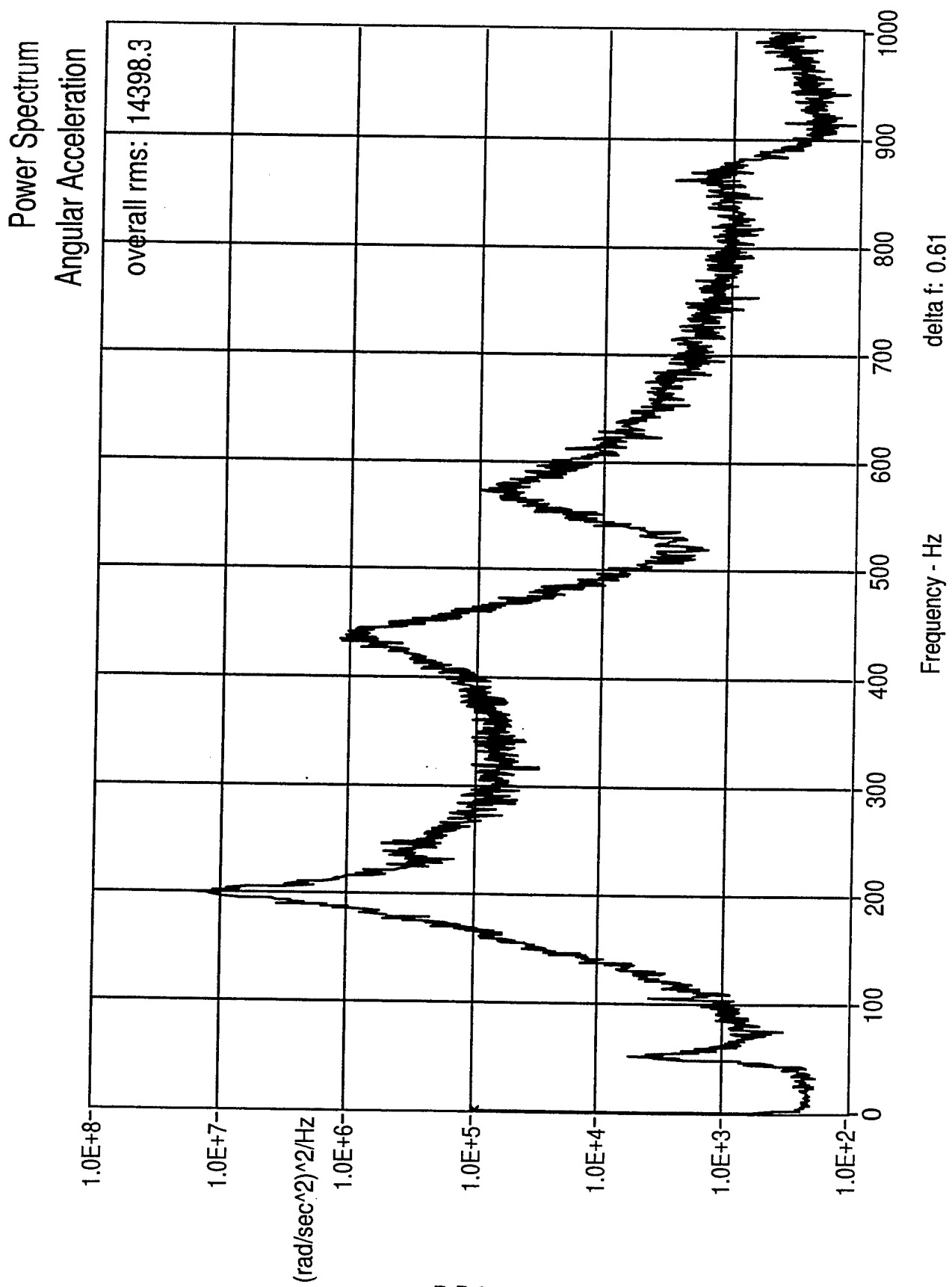
F-15 TPN_3042: alpha=24 beta=0 bp=65



F-15 TPN_3046: alpha=20 beta=4 bp=65



F-15 TPN_3048: alpha=24 beta=4 bp=65



FLEXIBLE TAIL RESPONSE

ACCELERATION DATA

Q= 30 PSF

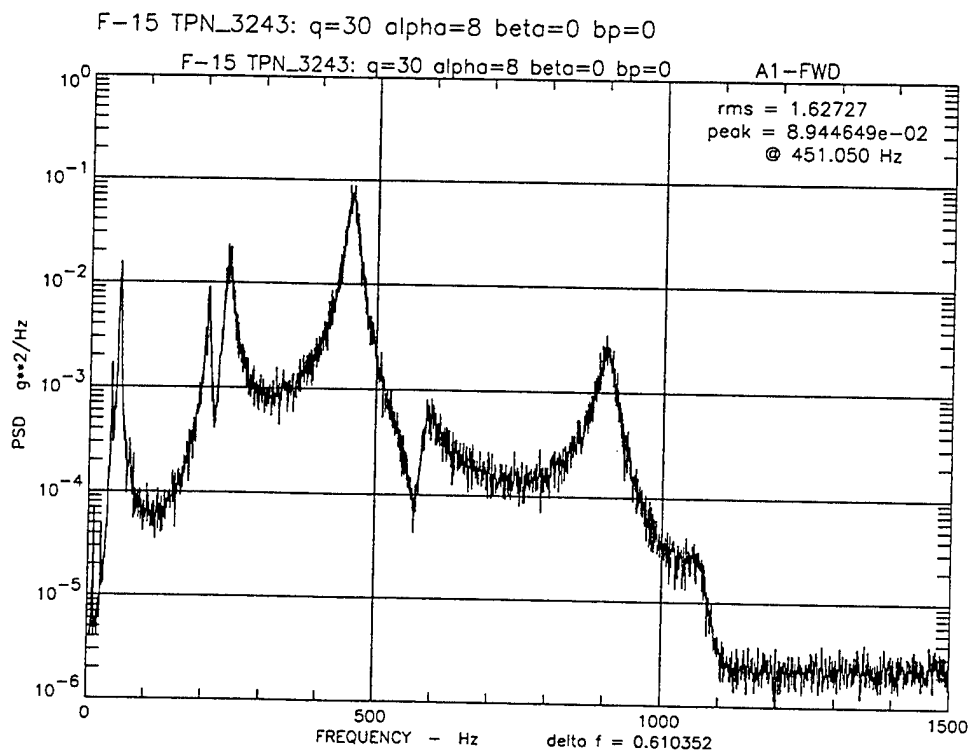
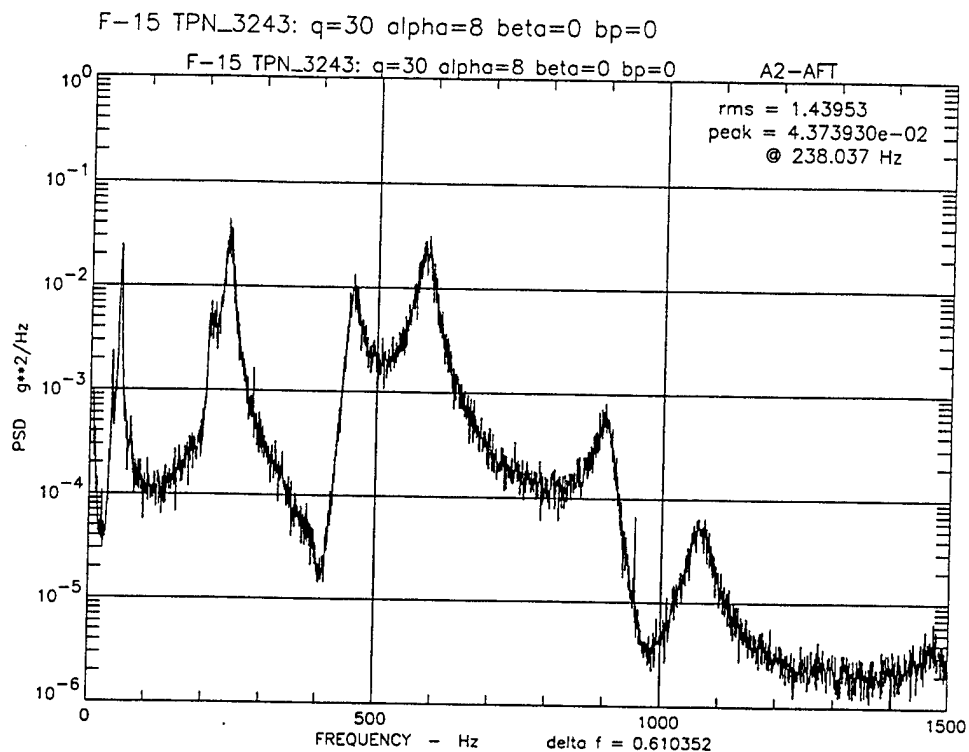
PSD GRAPHS

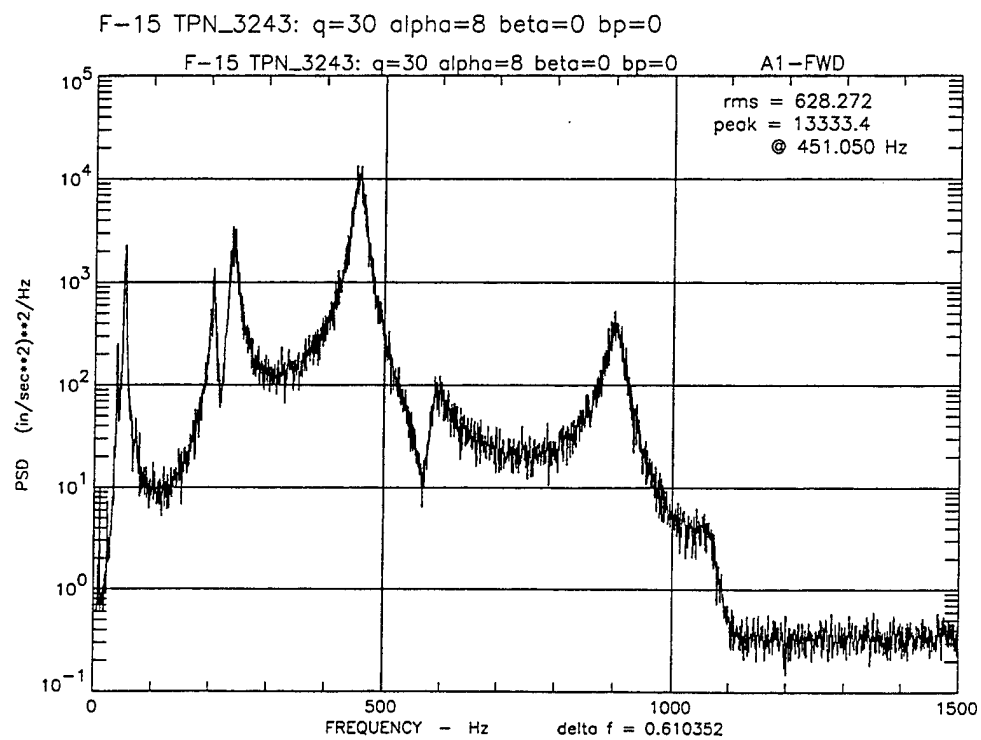
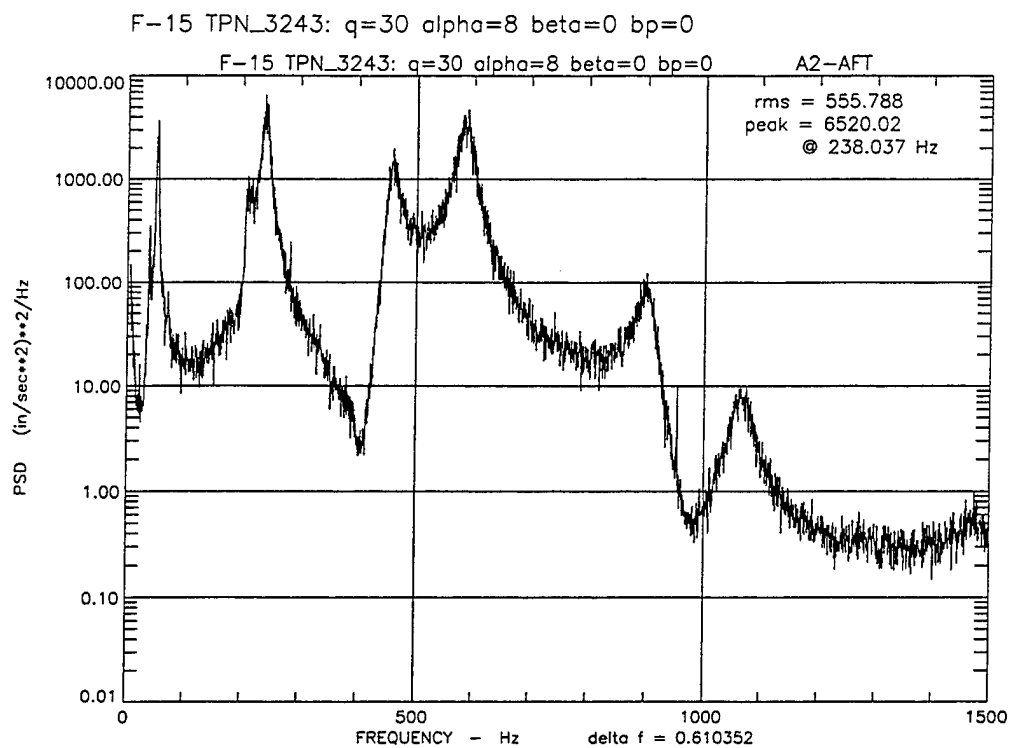
4.1.2.1 FWD AND AFT ACCELS, beta= 0, +4, -4 Deg, WBP = 0, 45, psi

ALPHAS = 8, 20, 24, 32 DEG

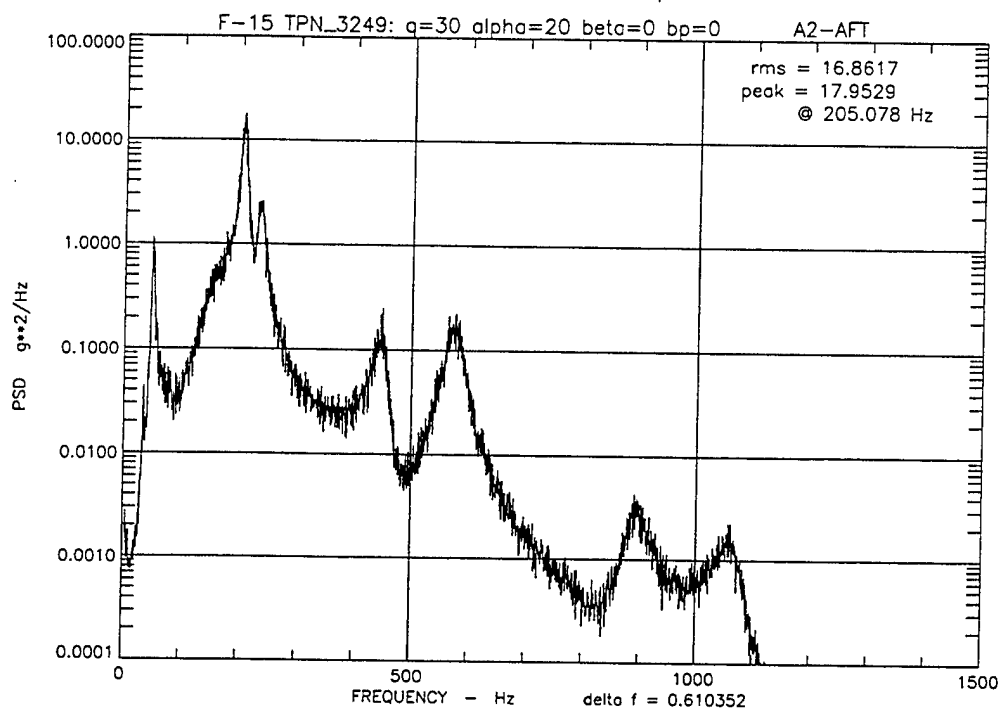
(note, the dimensional graph , (in/sec)²/hz is followed by a graph (g's)²/hz

data is blocked off by blowing pressures, with beta variation within

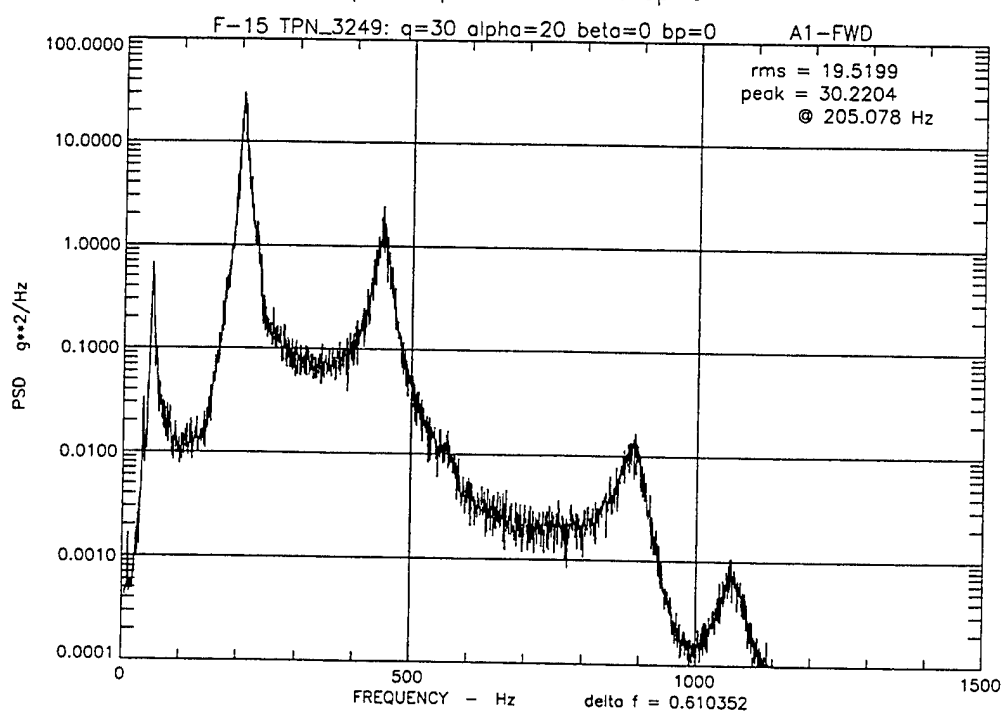


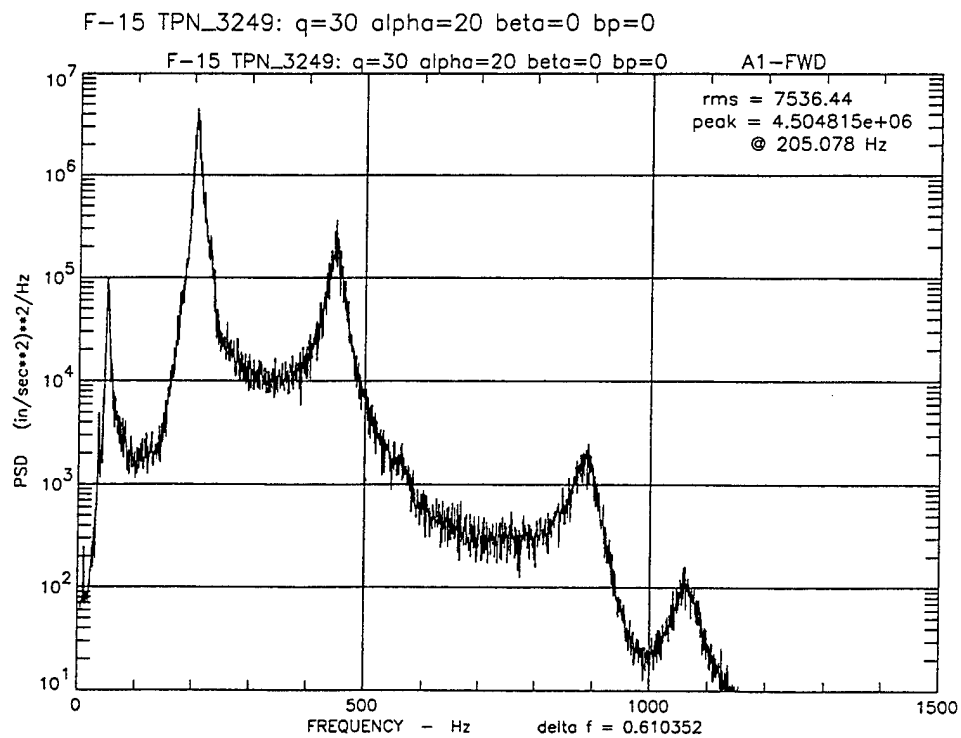
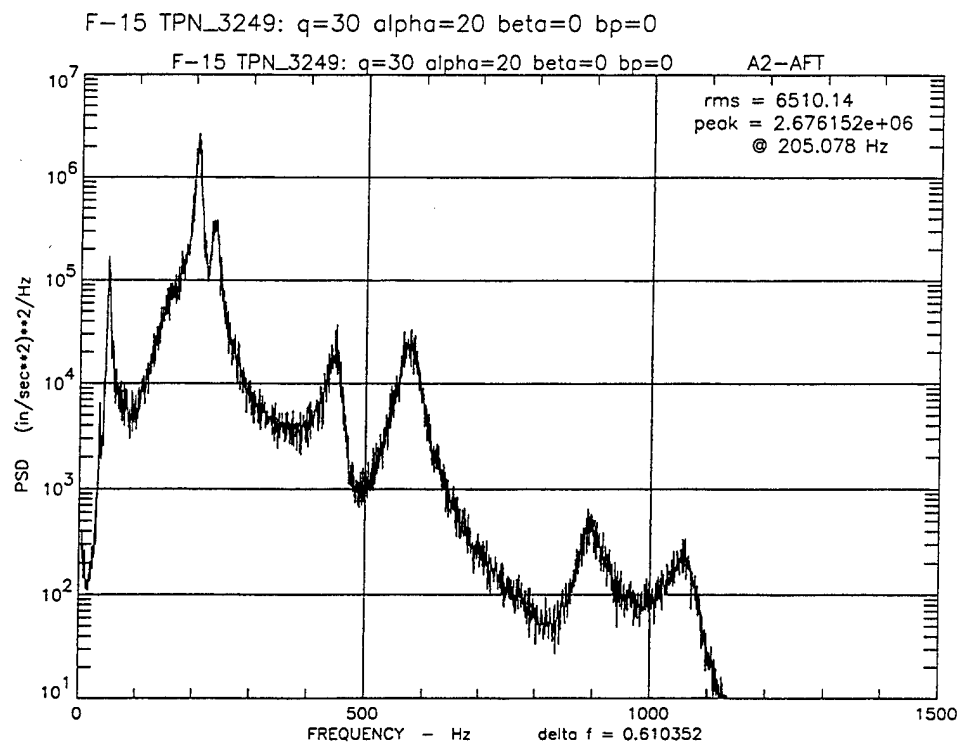


F-15 TPN_3249: q=30 alpha=20 beta=0 bp=0

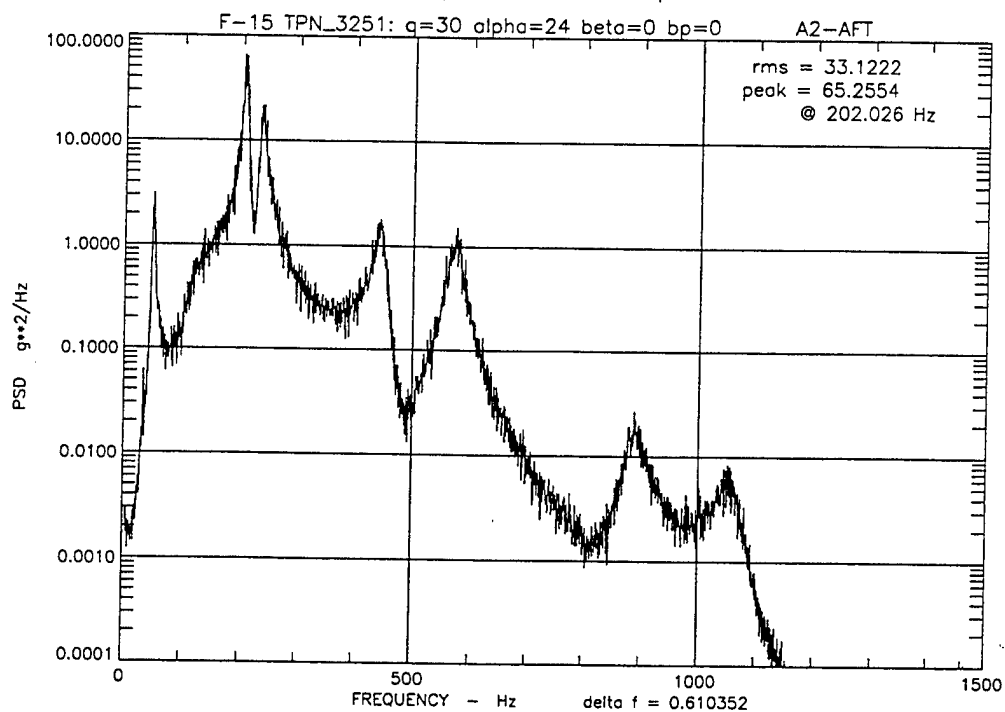


F-15 TPN_3249: q=30 alpha=20 beta=0 bp=0

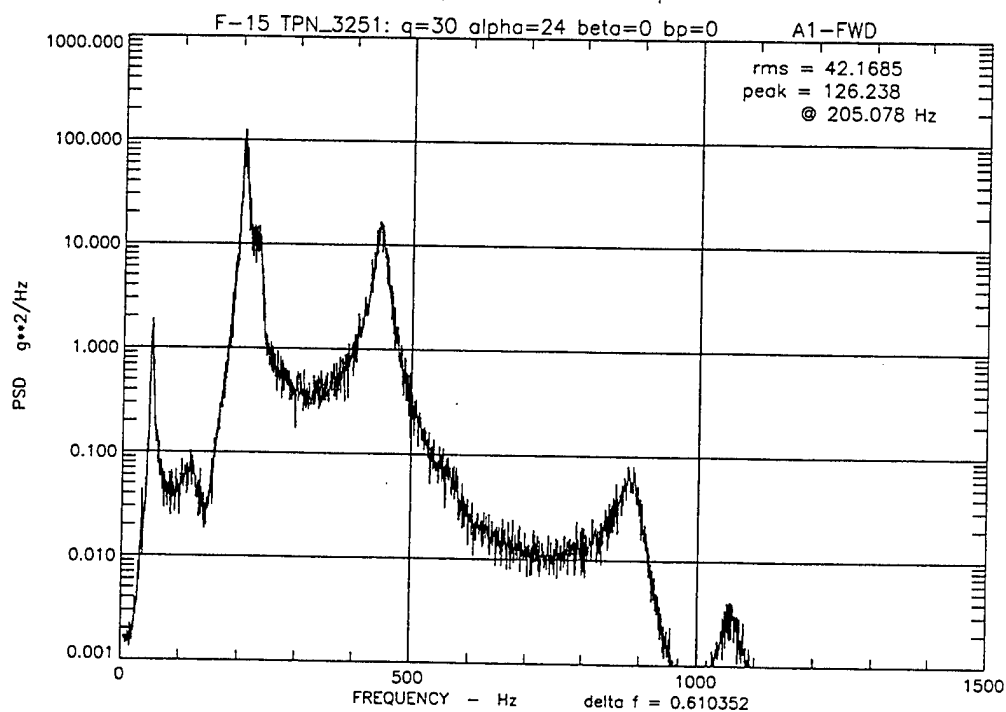




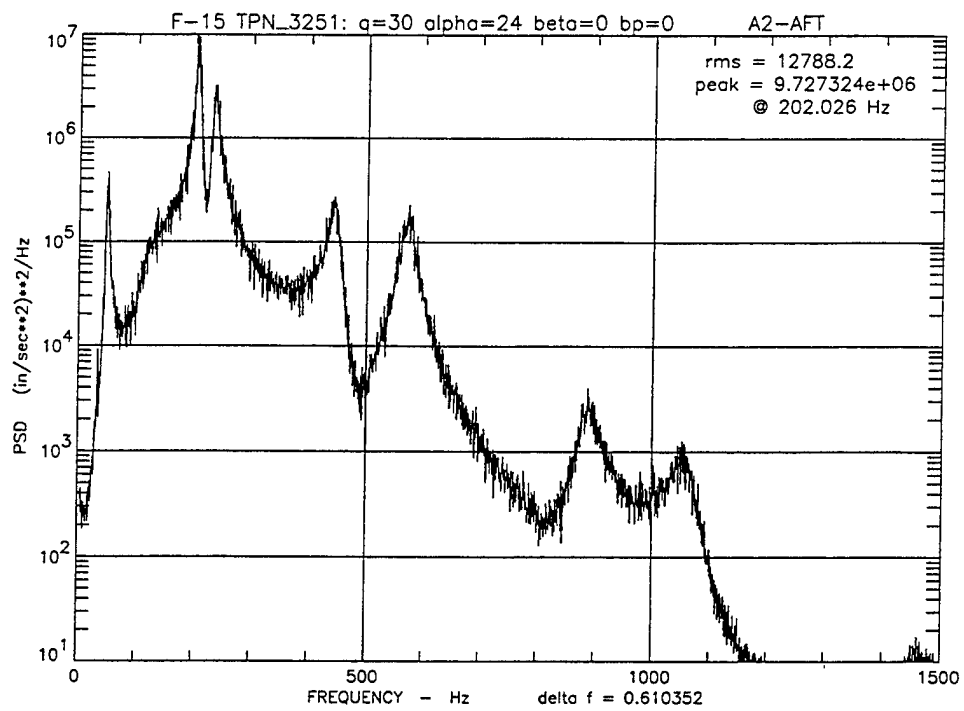
F-15 TPN_3251: q=30 alpha=24 beta=0 bp=0



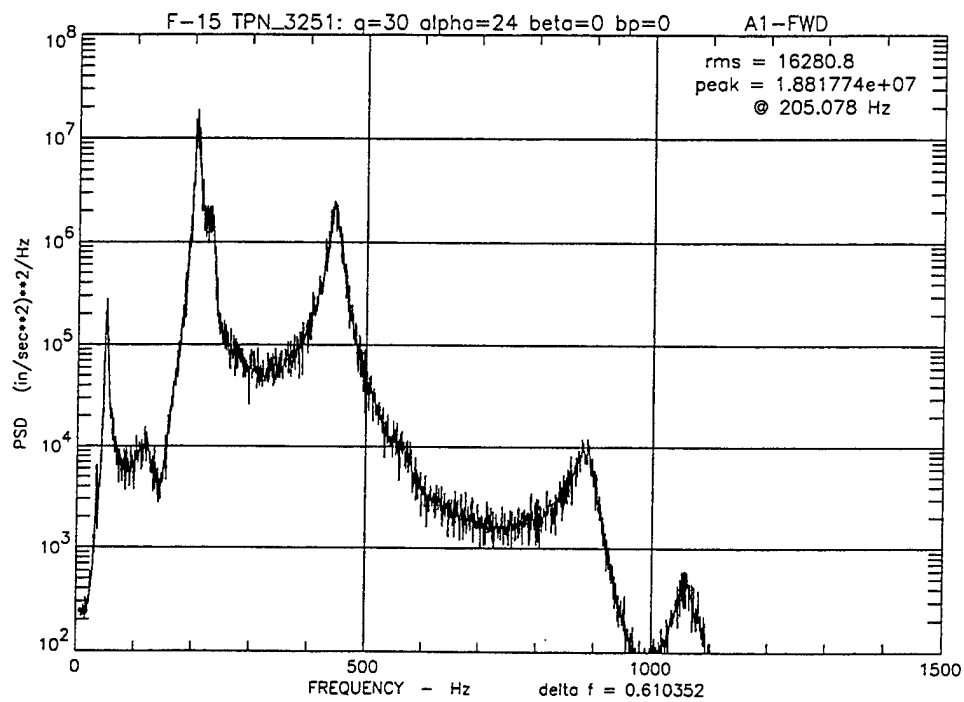
F-15 TPN_3251: q=30 alpha=24 beta=0 bp=0

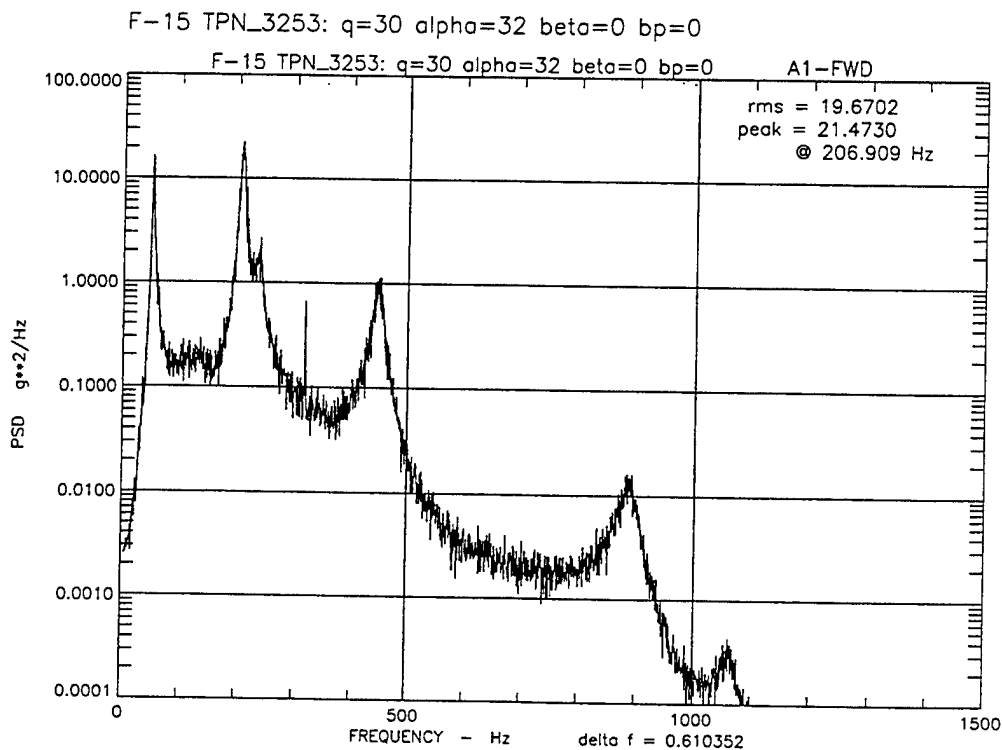
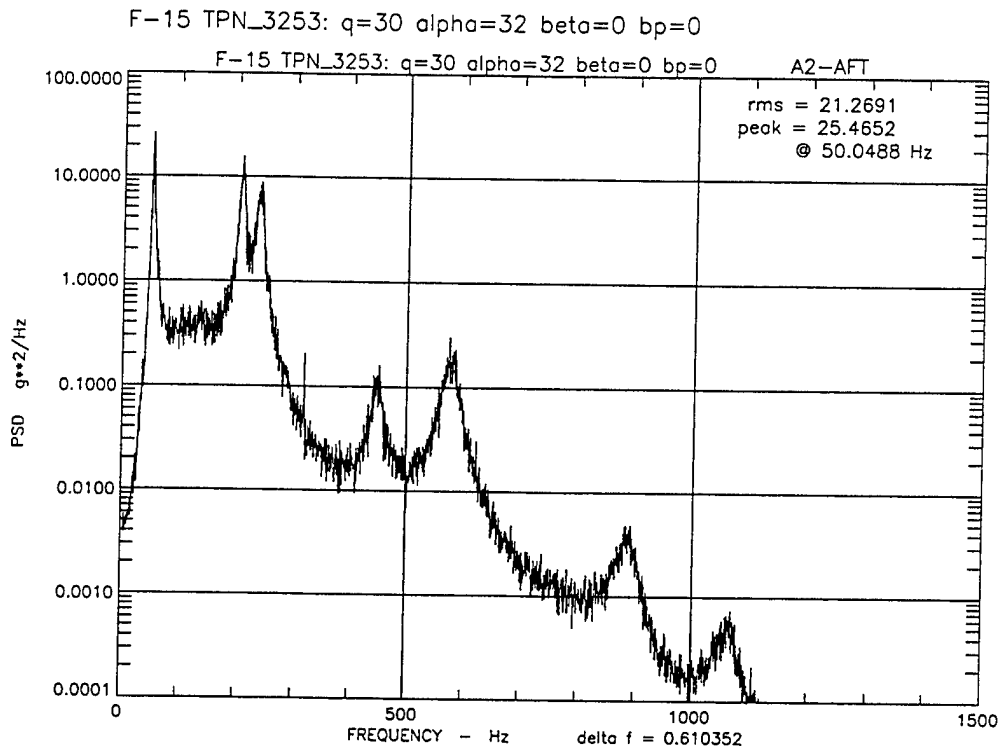


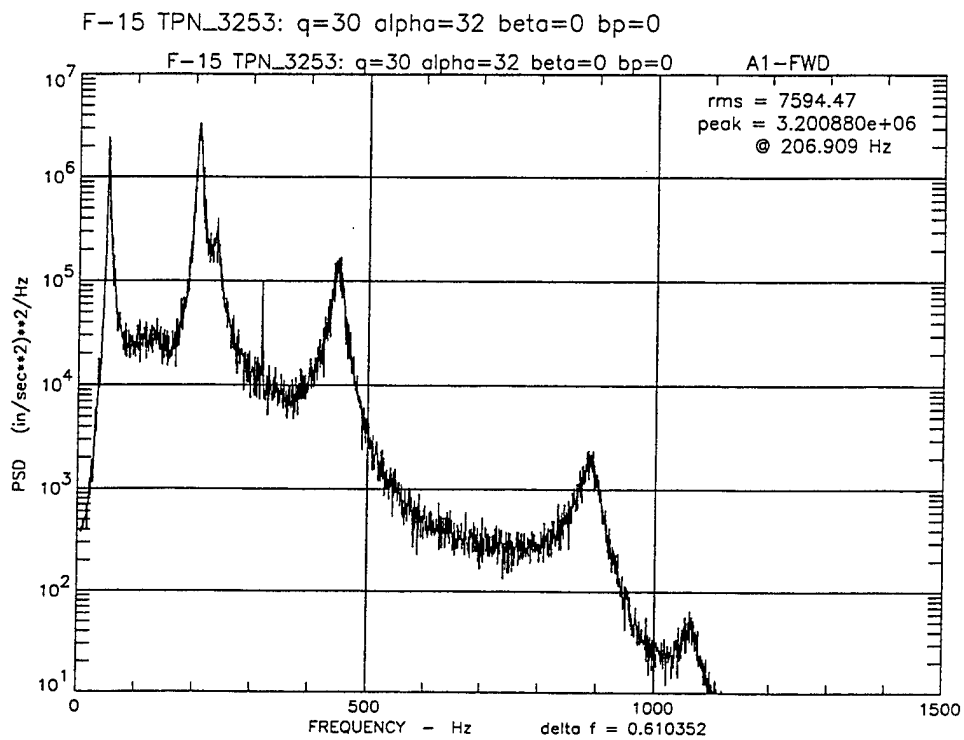
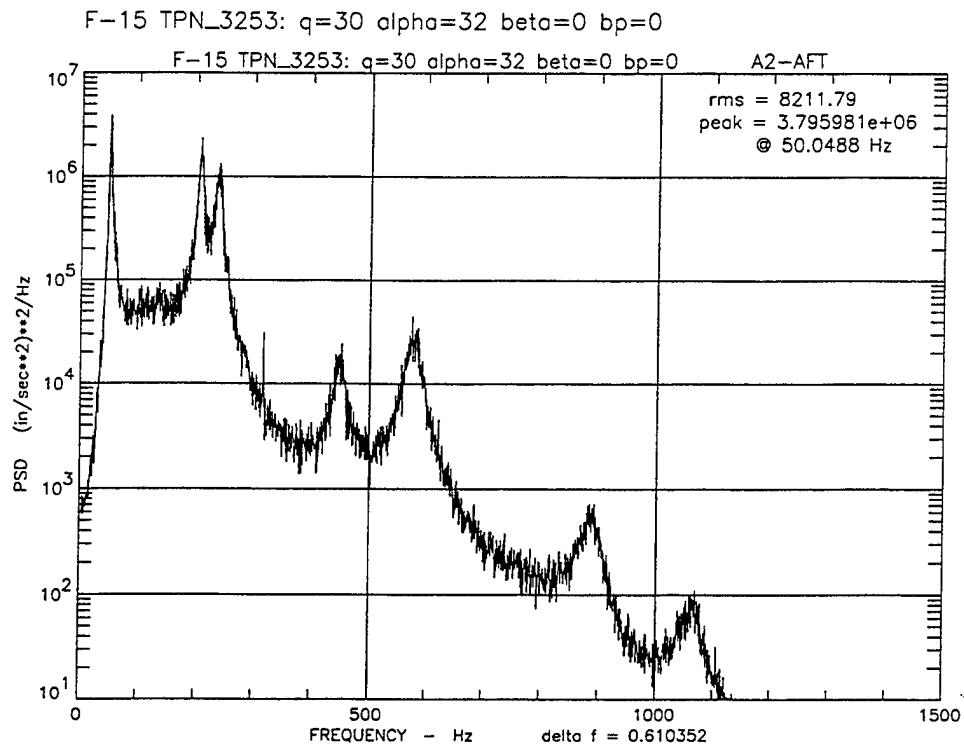
F-15 TPN_3251: q=30 alpha=24 beta=0 bp=0

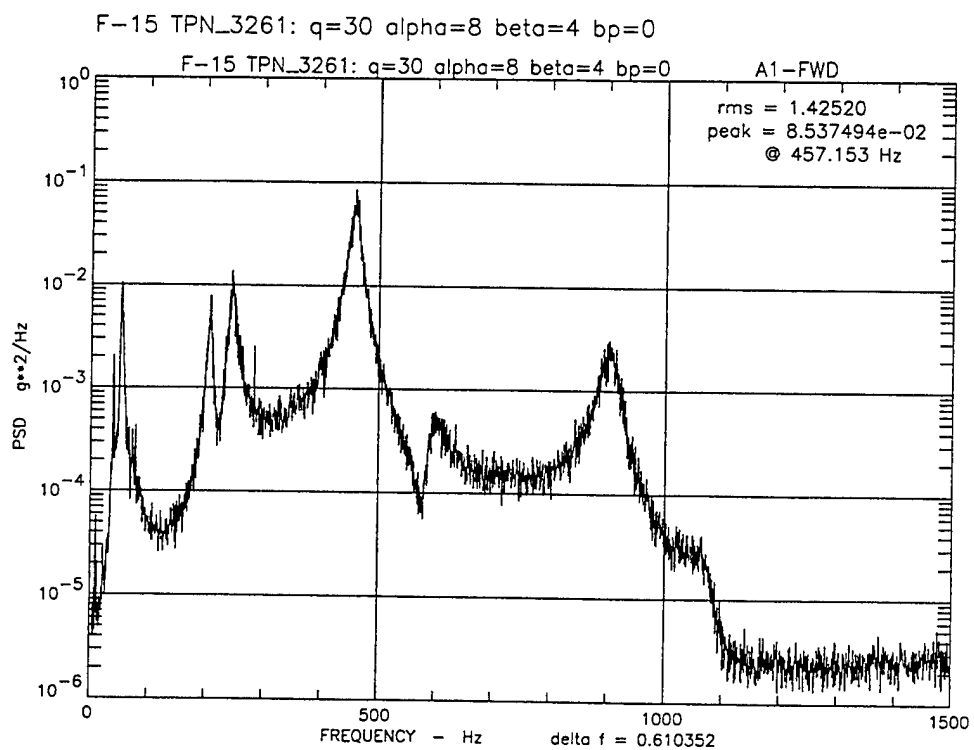
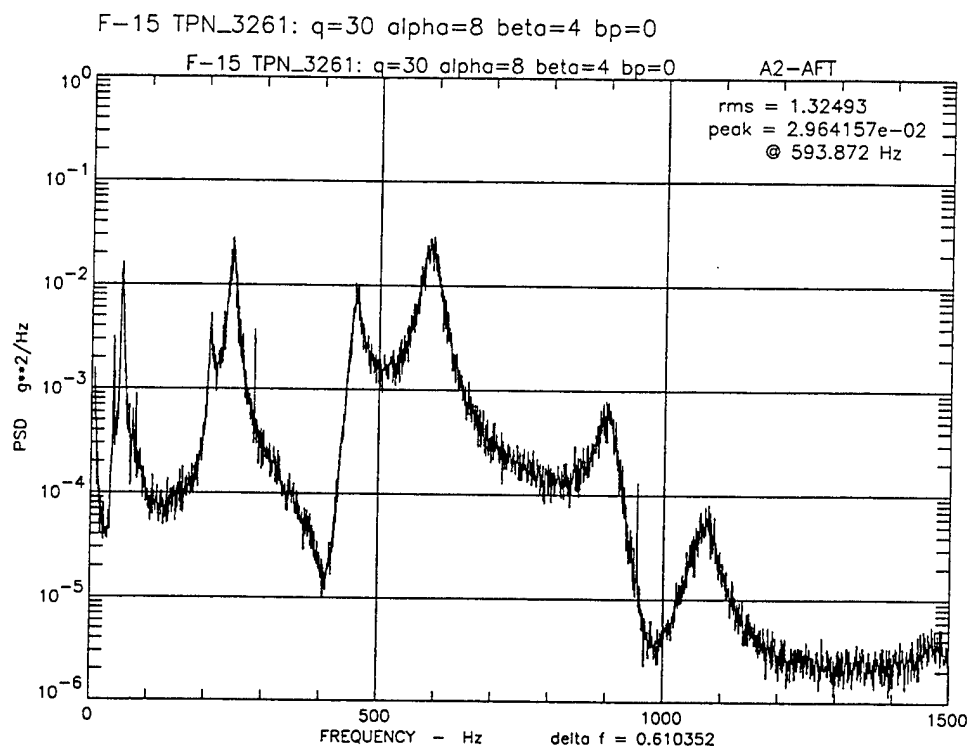


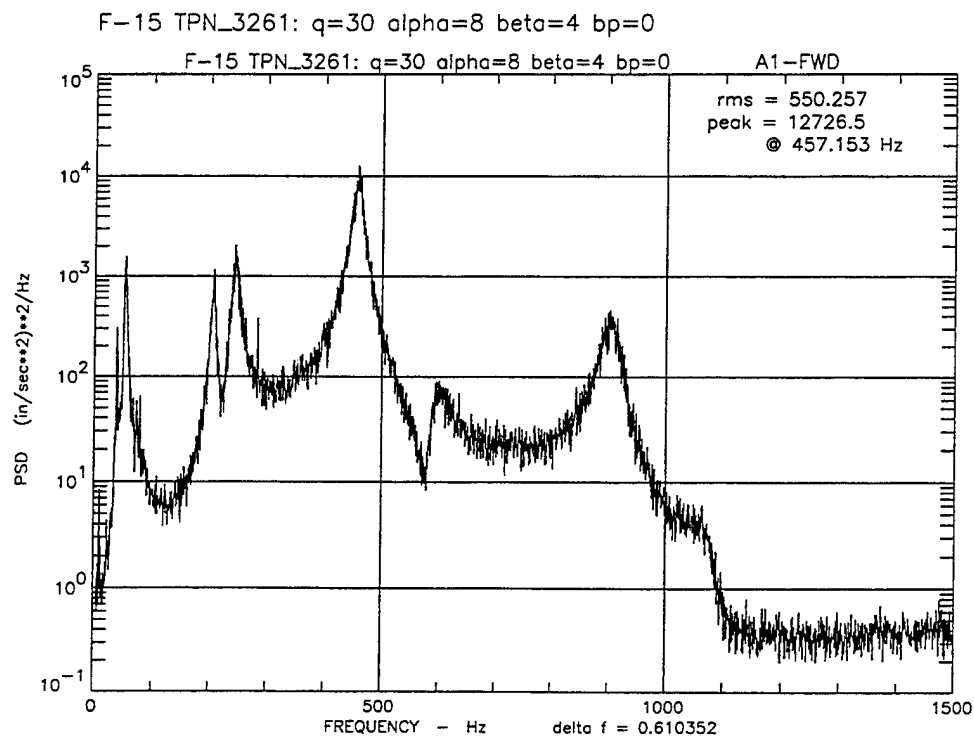
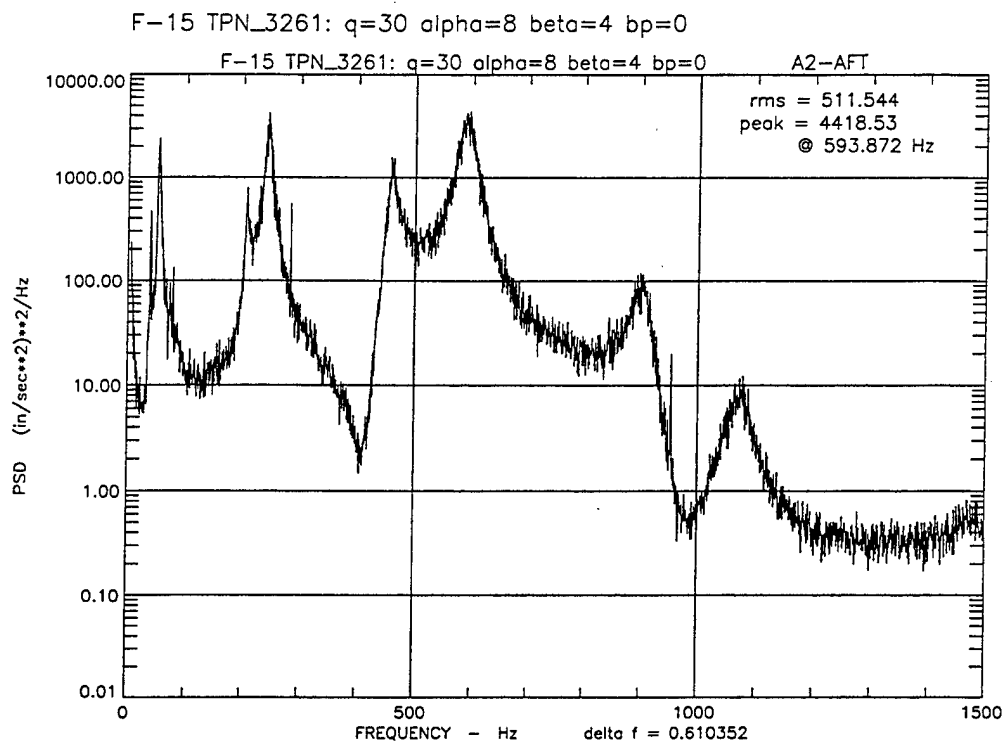
F-15 TPN_3251: q=30 alpha=24 beta=0 bp=0



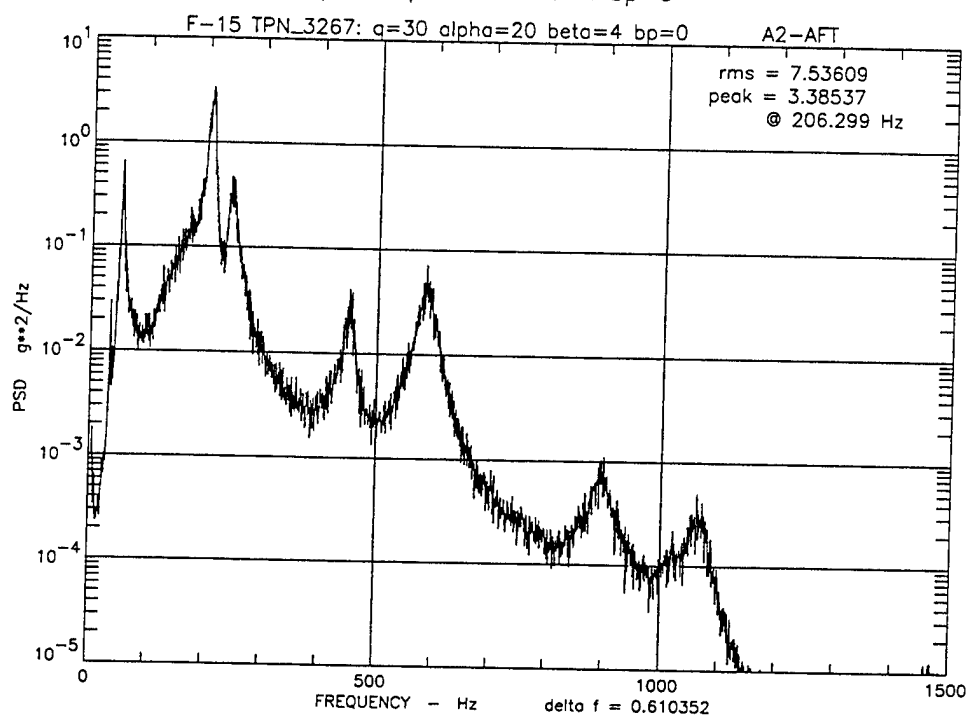




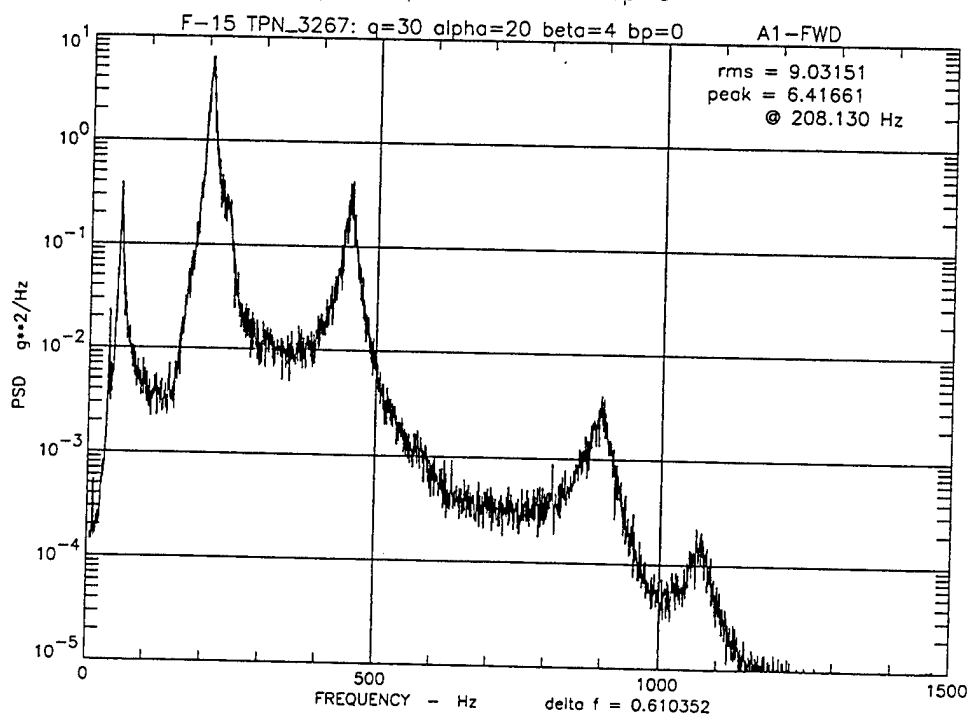


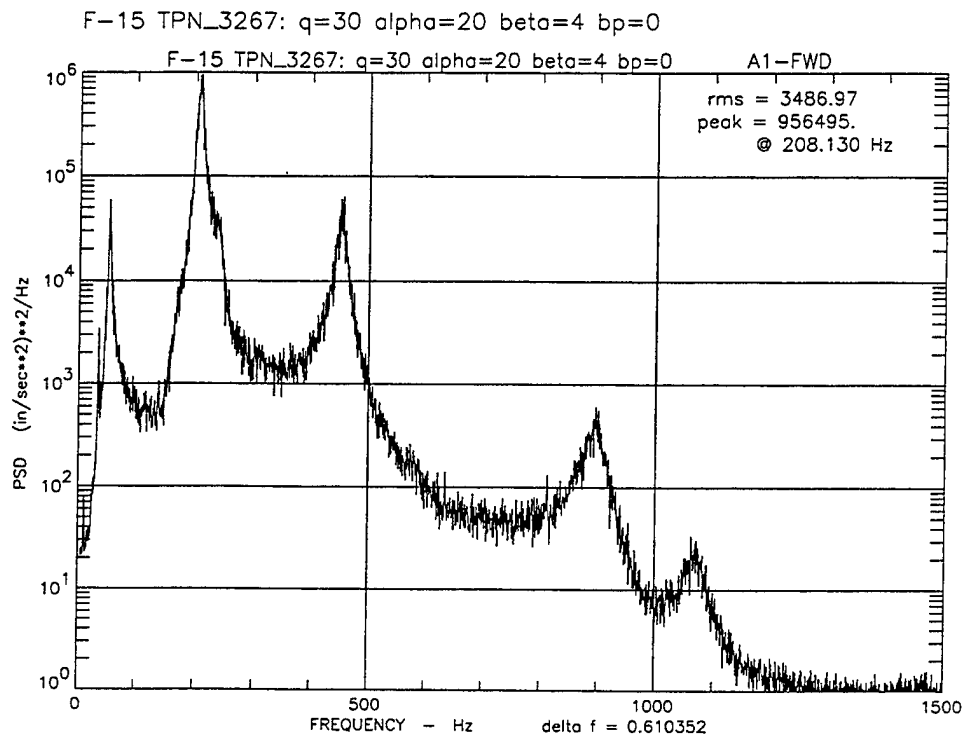
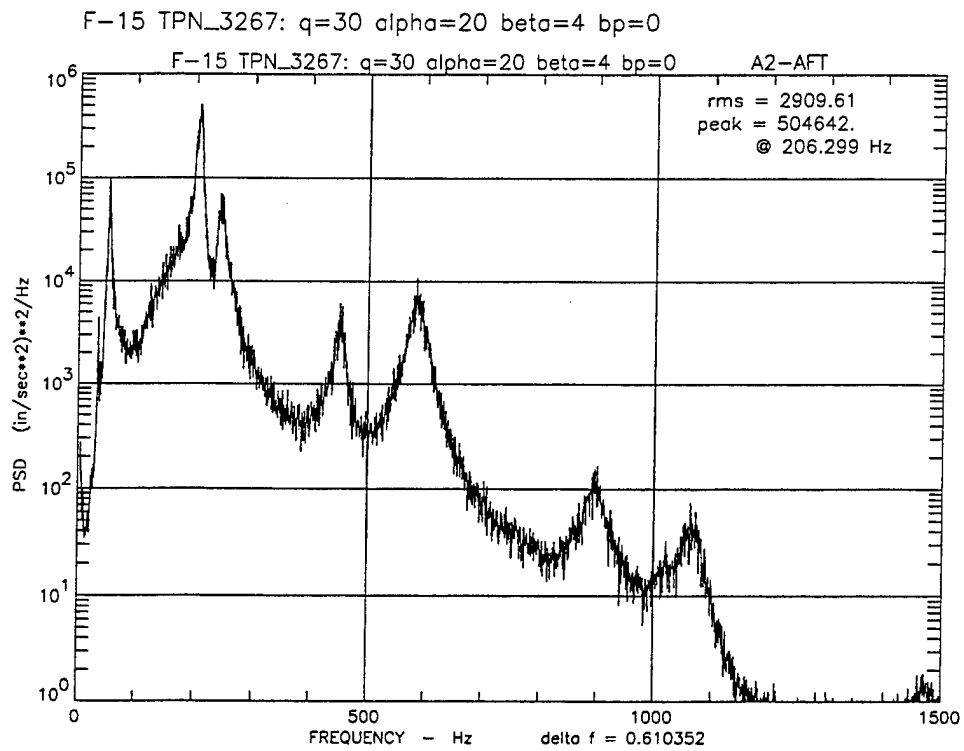


F-15 TPN_3267: q=30 alpha=20 beta=4 bp=0

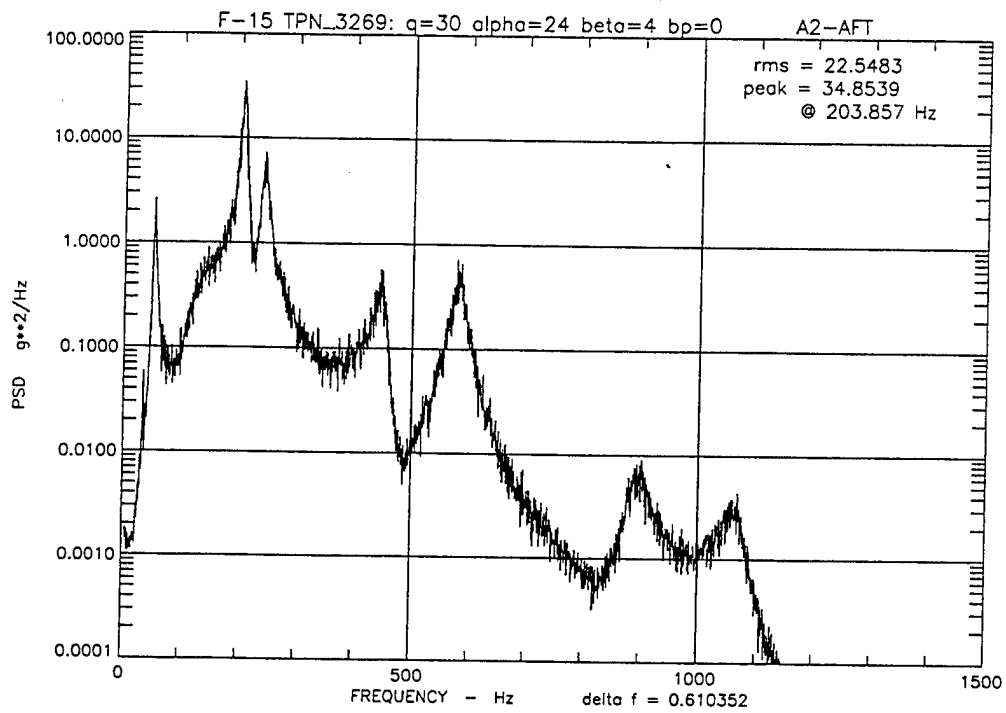


F-15 TPN_3267: q=30 alpha=20 beta=4 bp=0

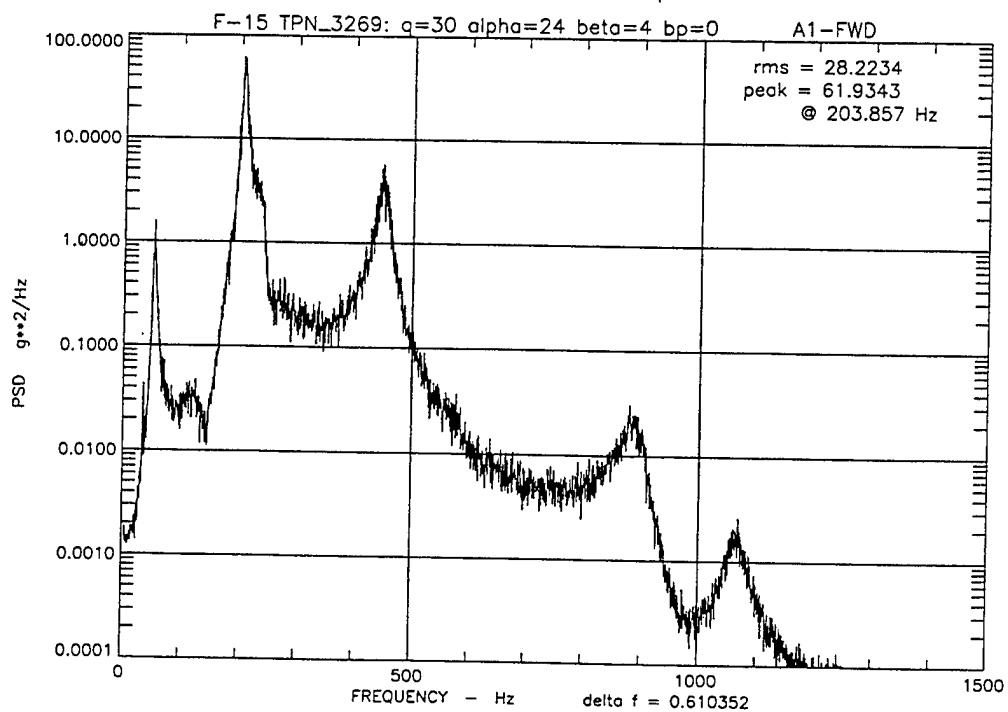




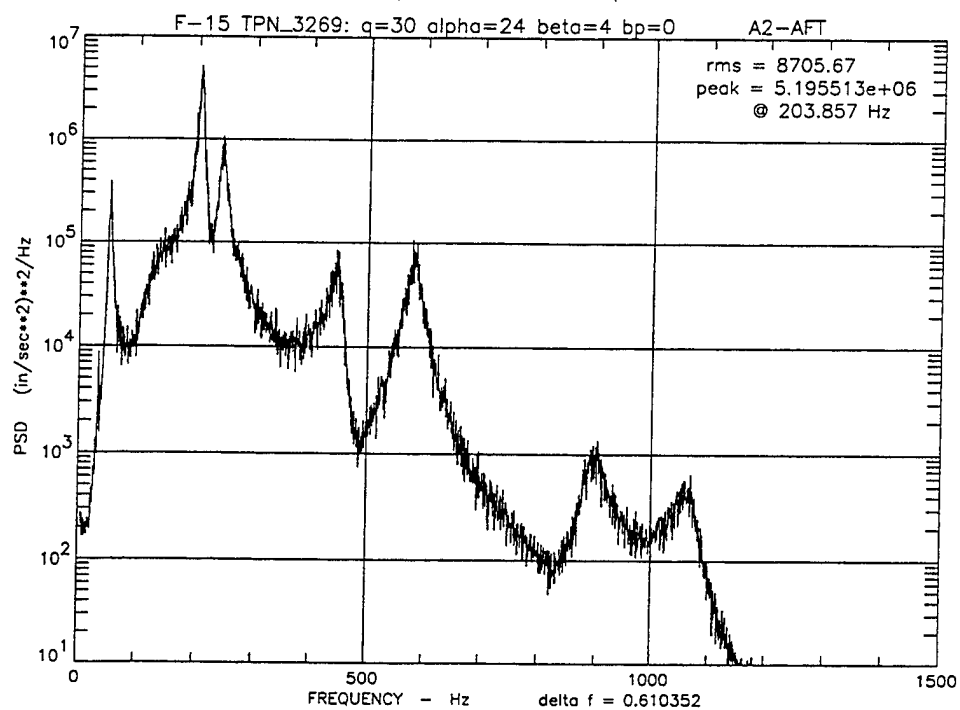
F-15 TPN_3269: q=30 alpha=24 beta=4 bp=0



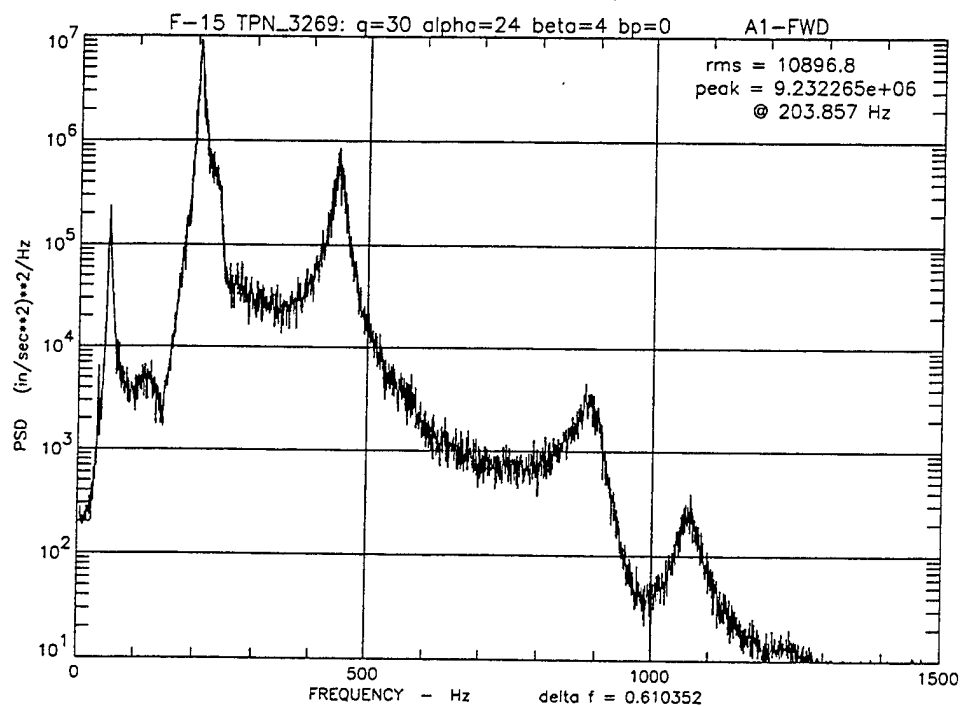
F-15 TPN_3269: q=30 alpha=24 beta=4 bp=0

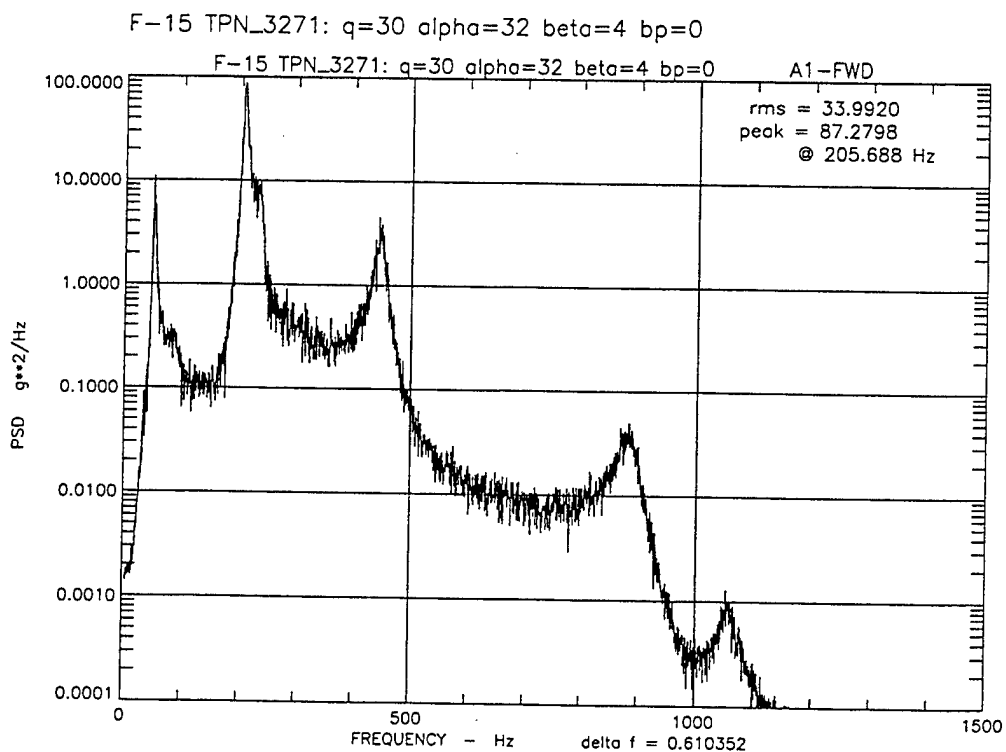
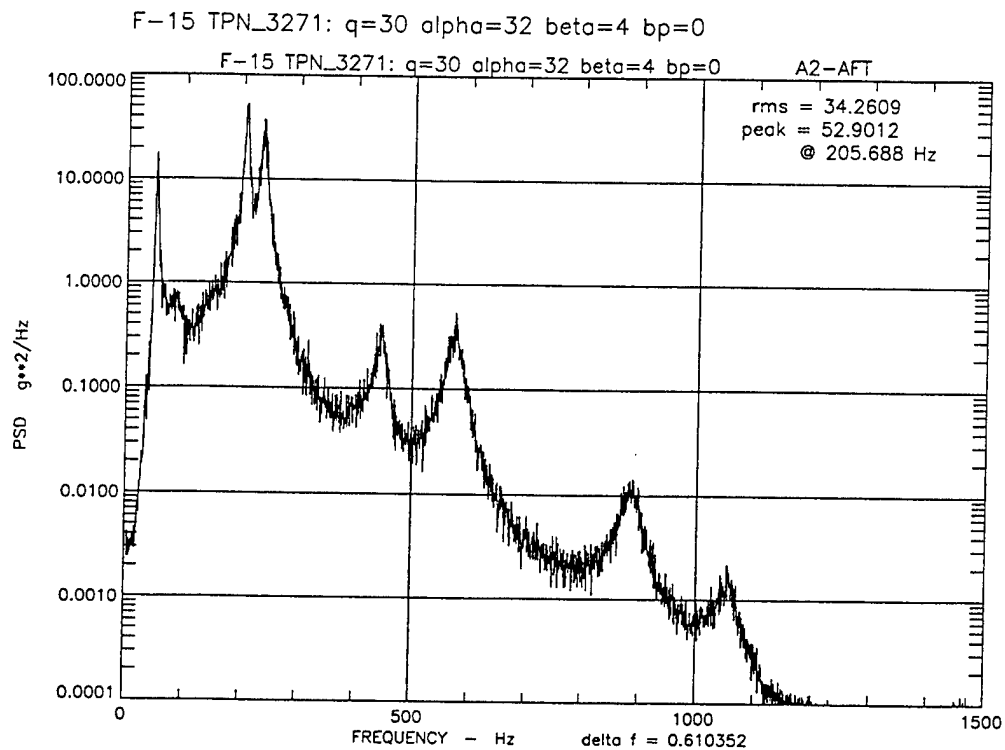


F-15 TPN_3269: q=30 alpha=24 beta=4 bp=0

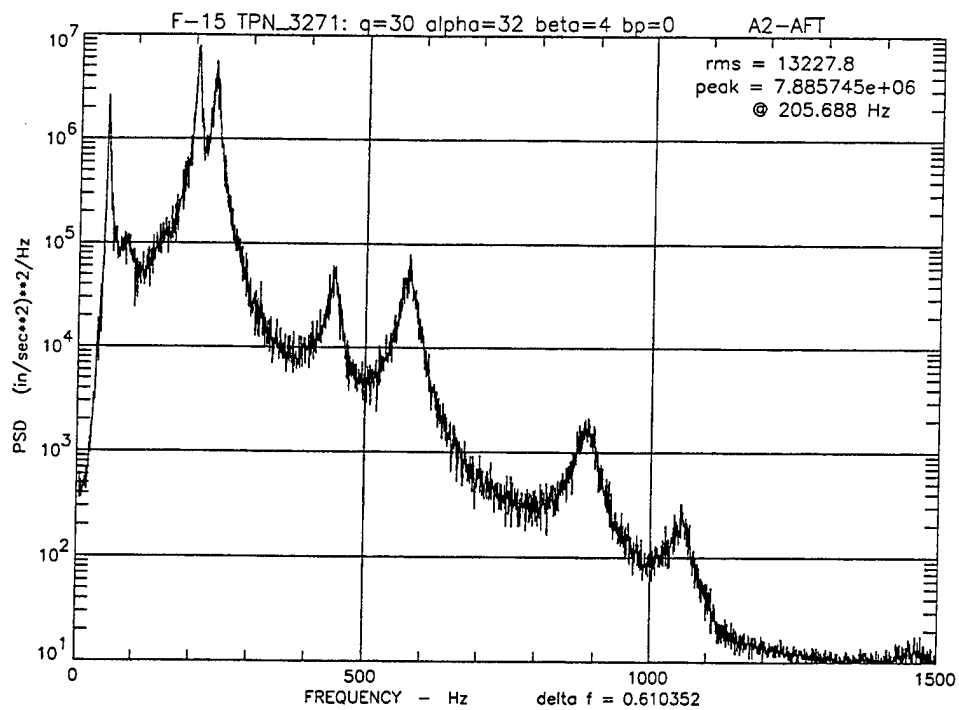


F-15 TPN_3269: q=30 alpha=24 beta=4 bp=0

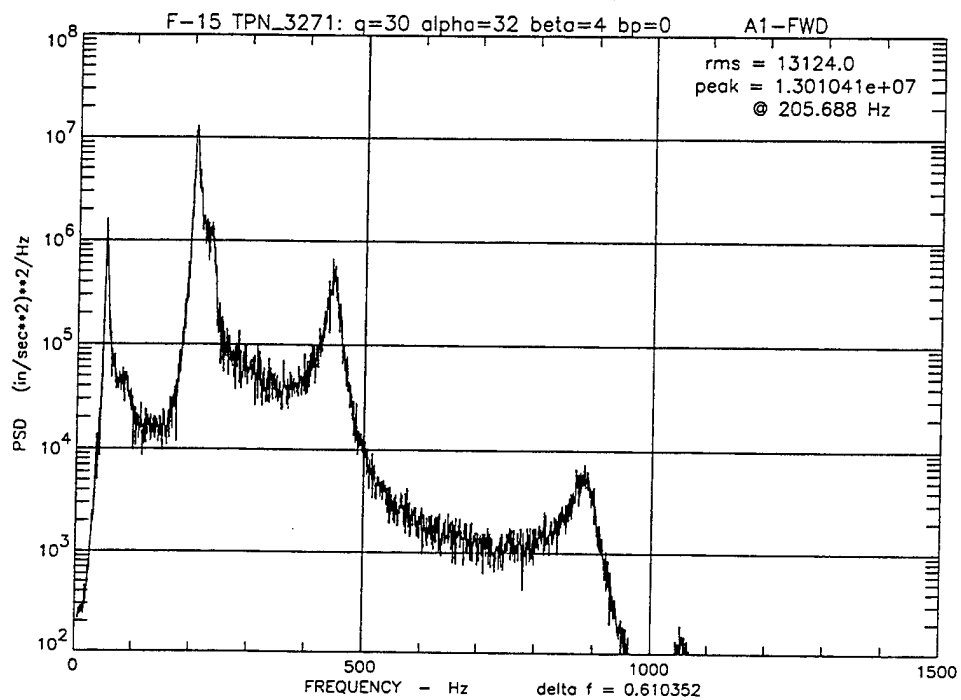


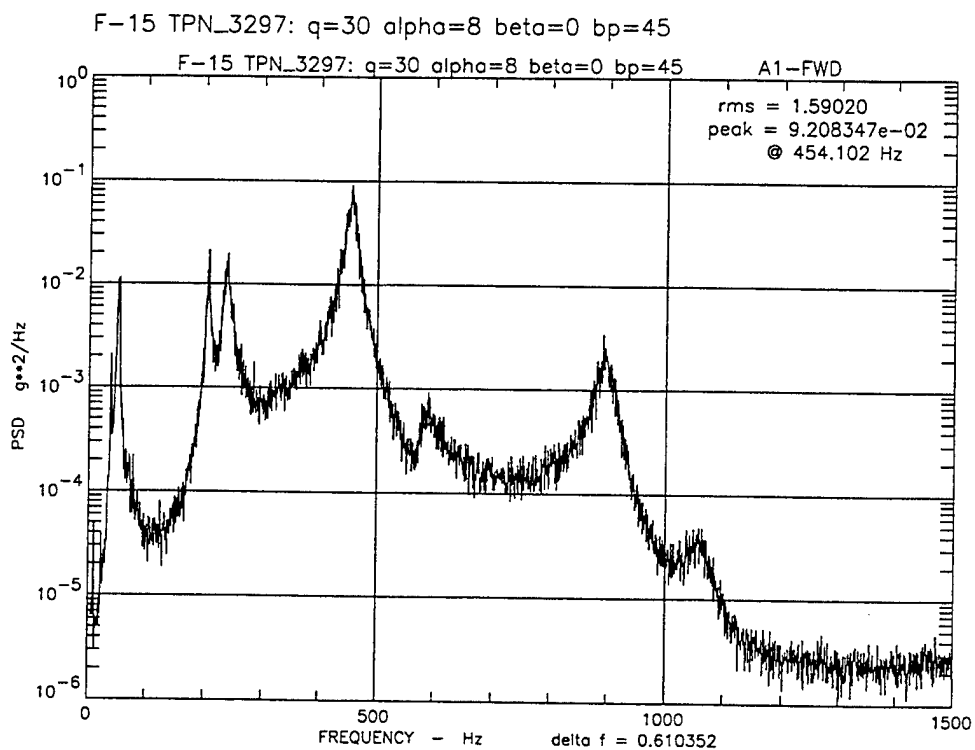
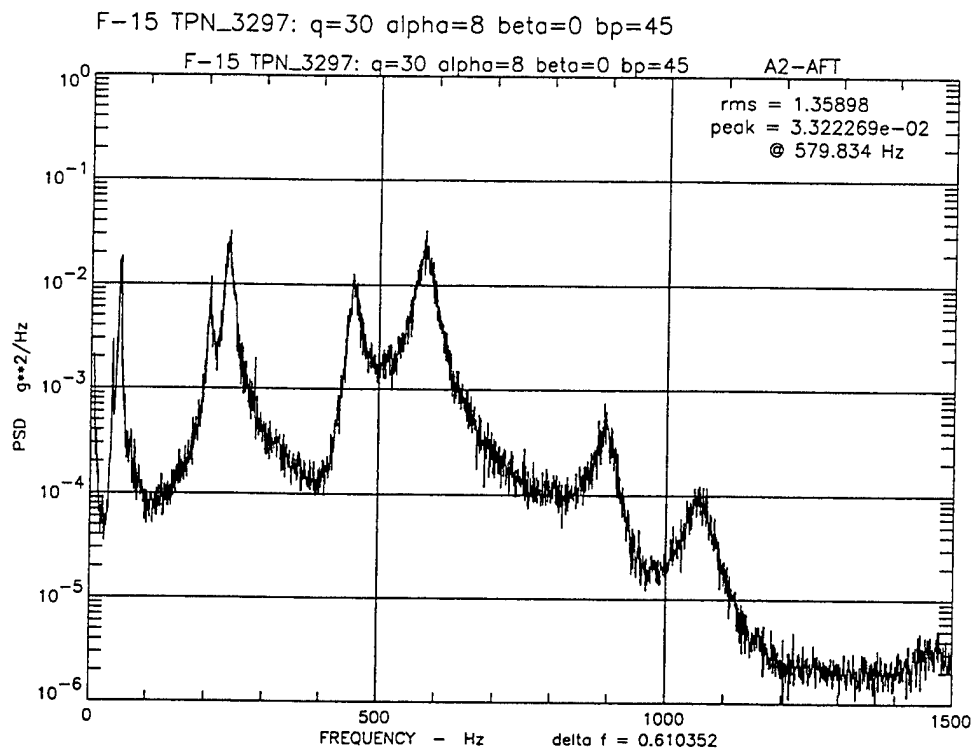


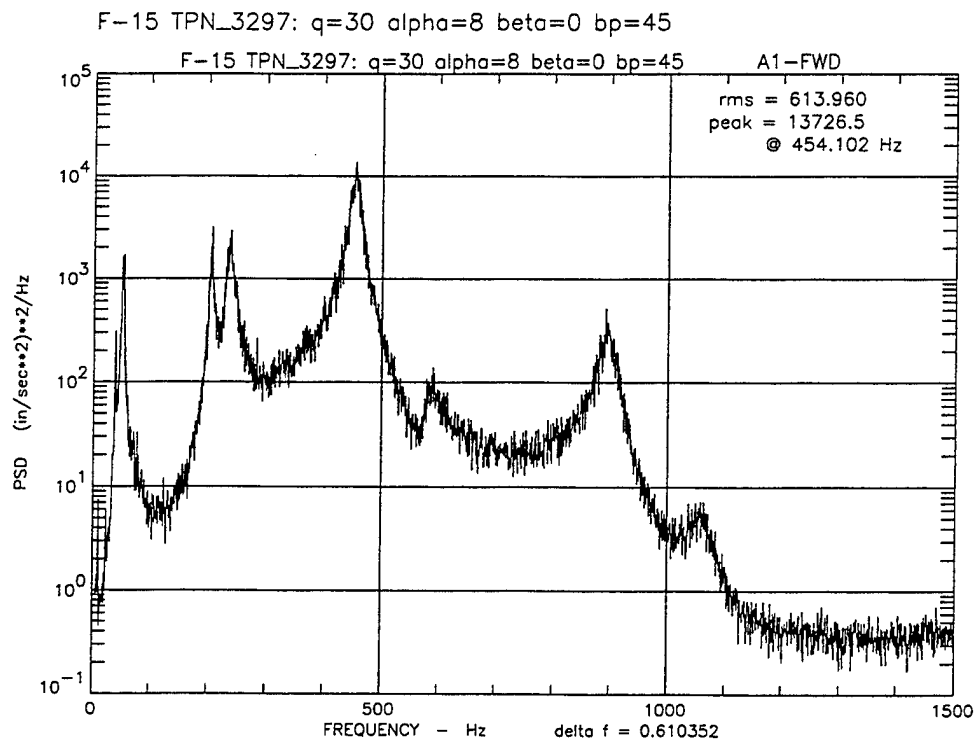
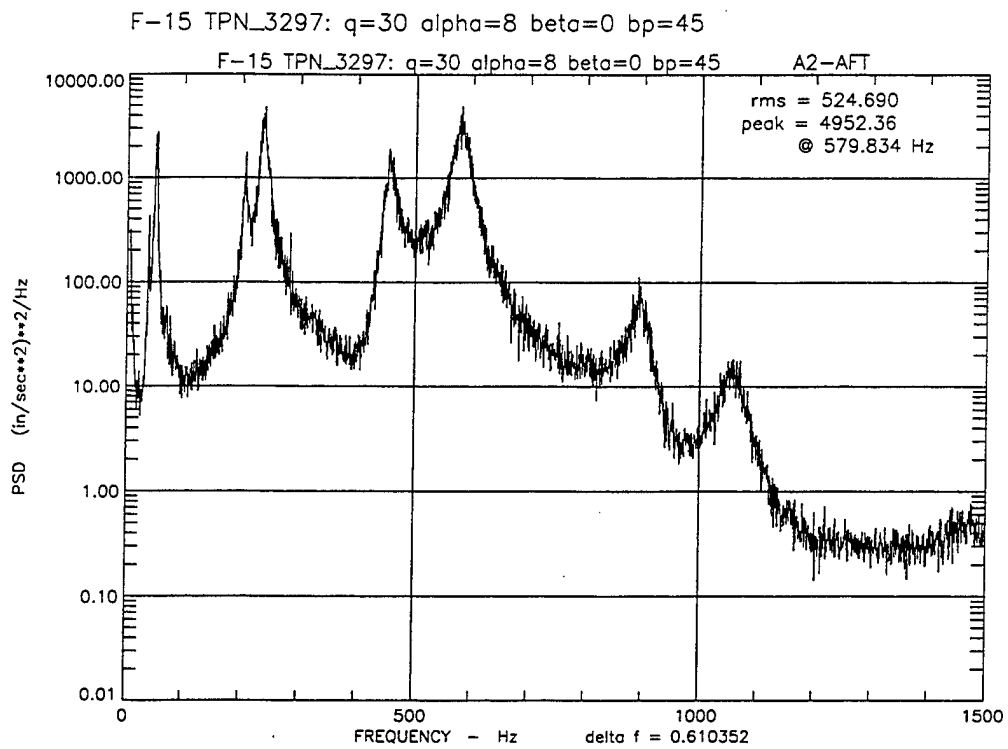
F-15 TPN_3271: q=30 alpha=32 beta=4 bp=0



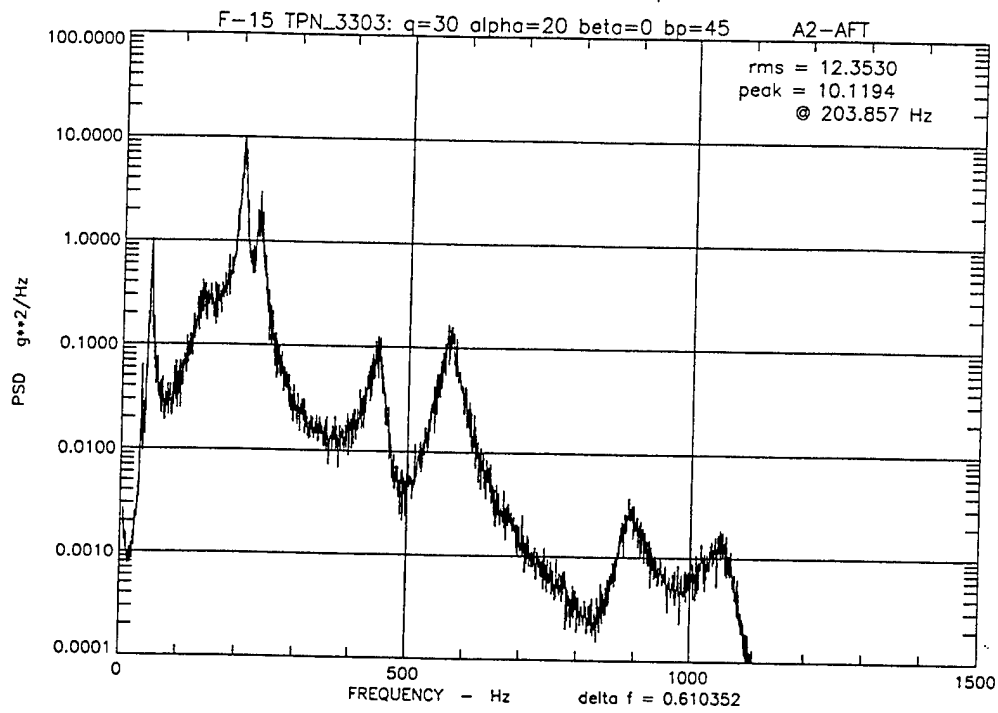
F-15 TPN_3271: q=30 alpha=32 beta=4 bp=0



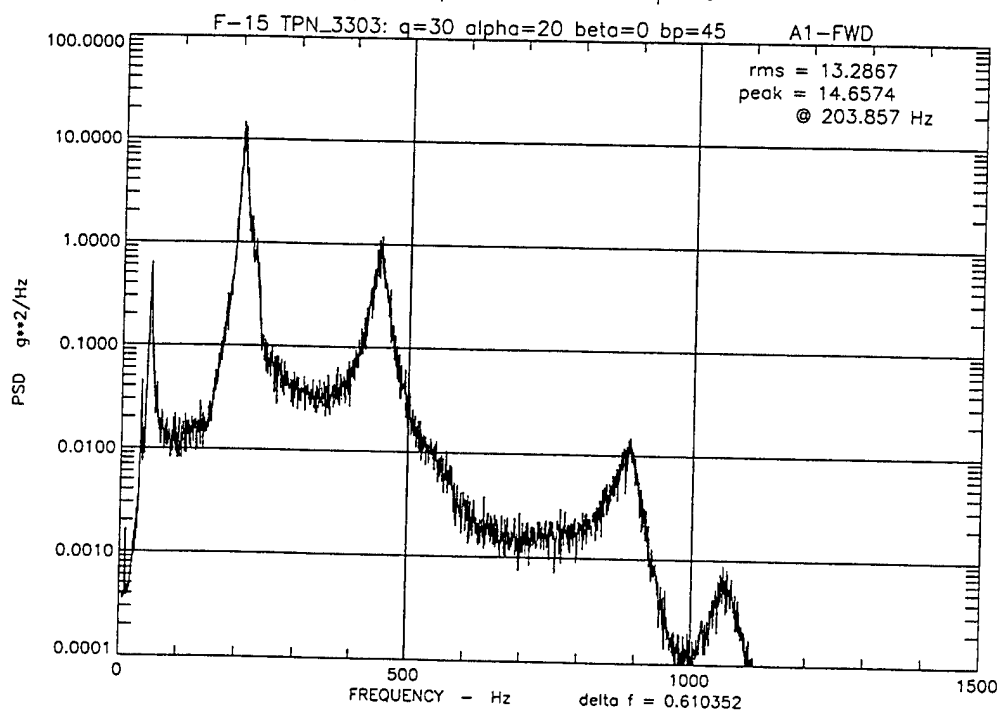




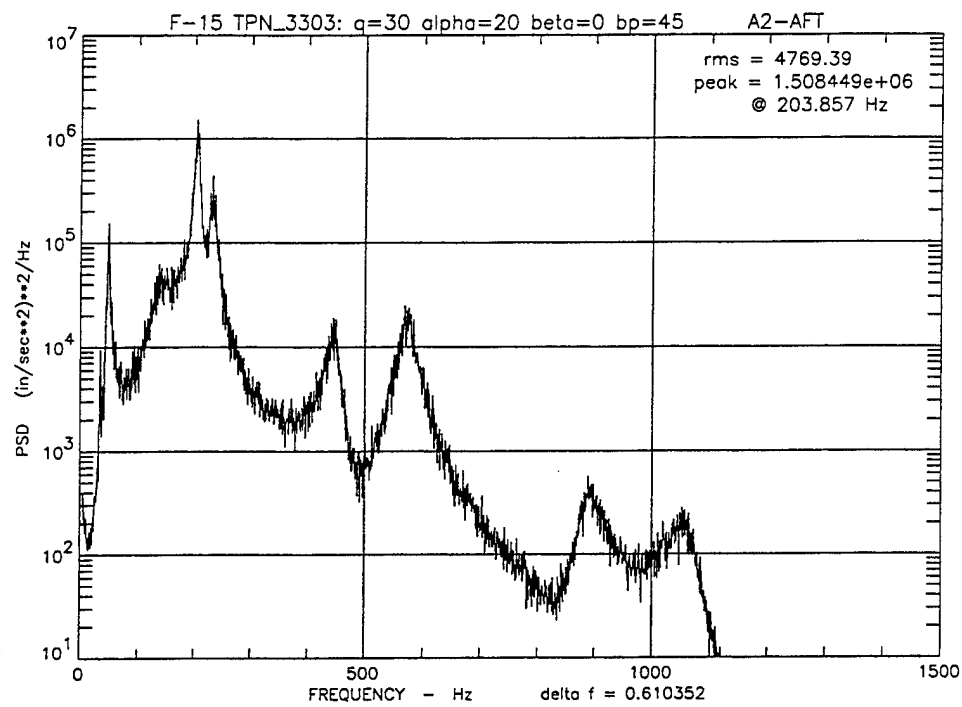
F-15 TPN_3303: q=30 alpha=20 beta=0 bp=45



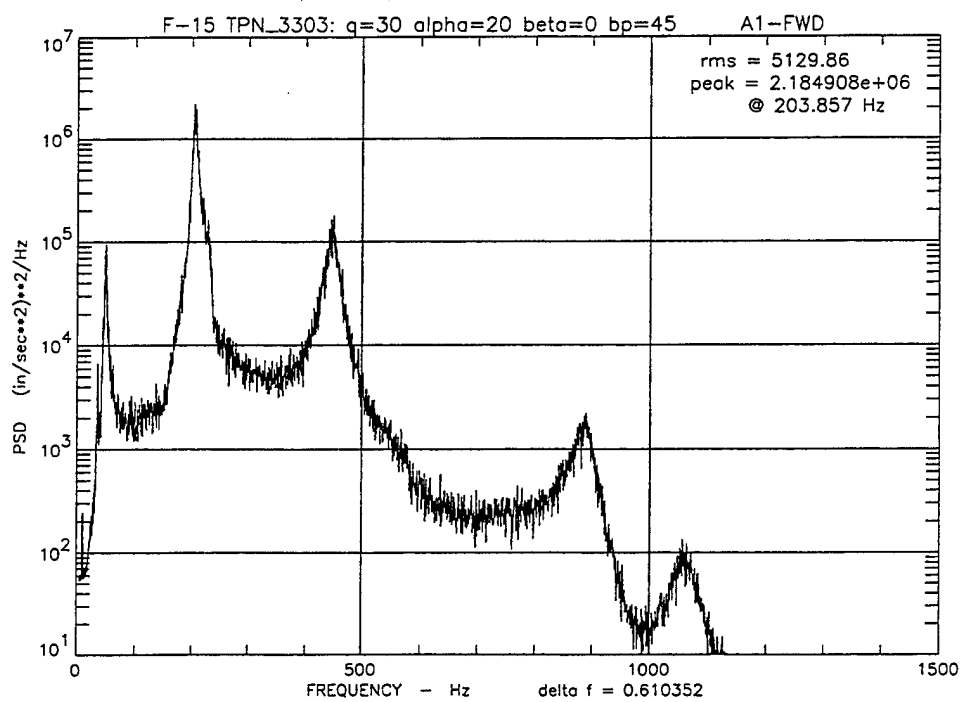
F-15 TPN_3303: q=30 alpha=20 beta=0 bp=45

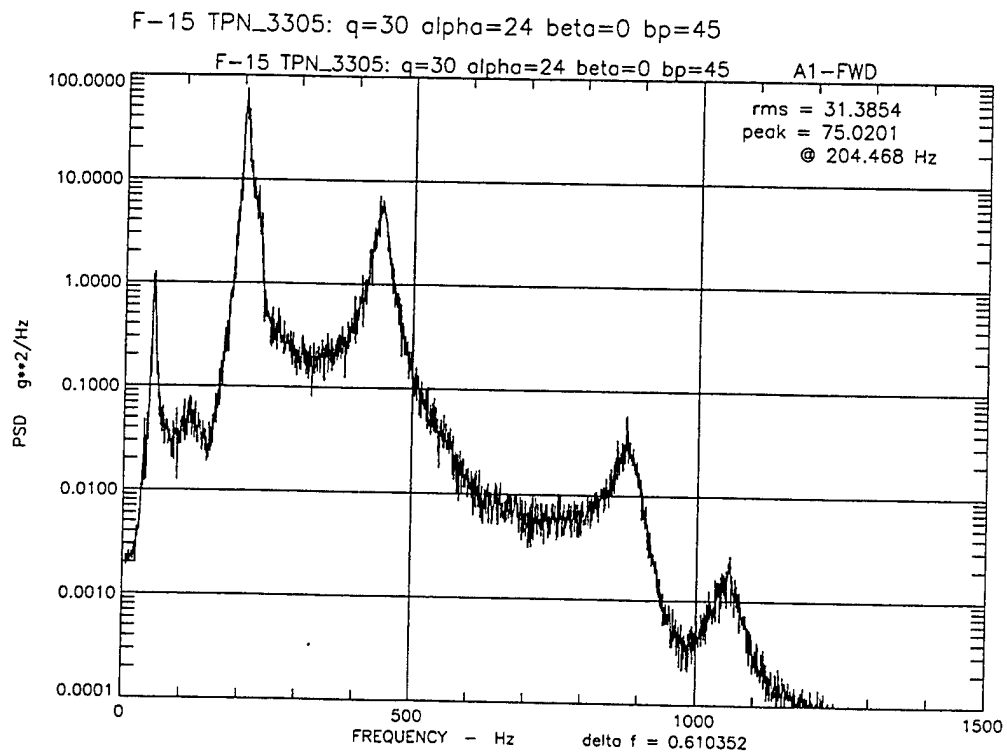
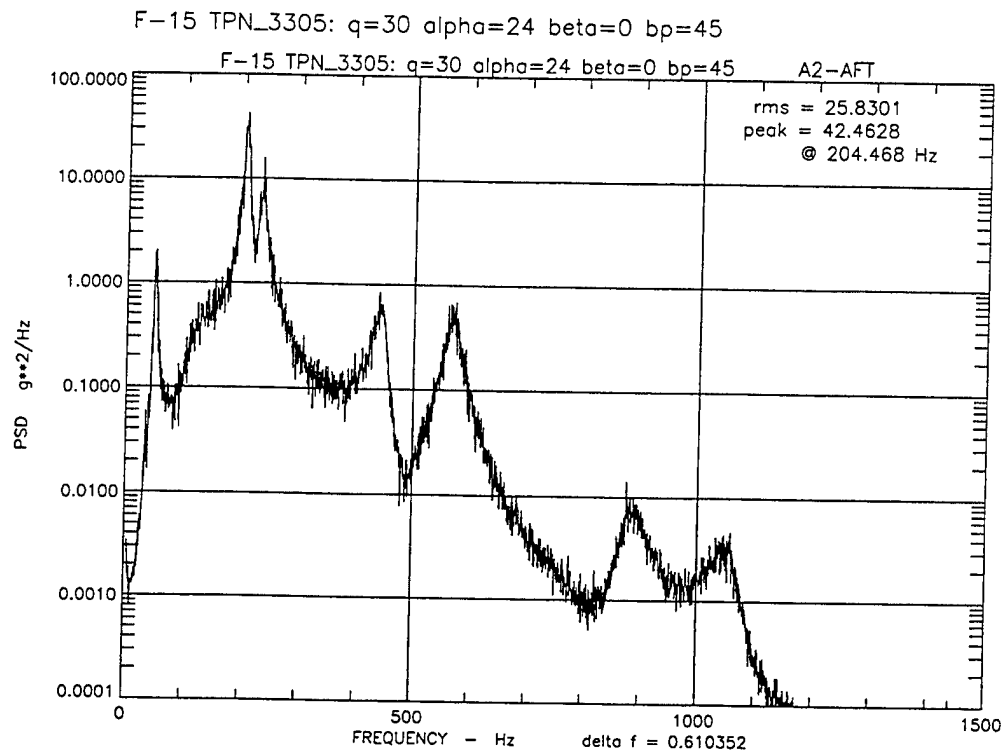


F-15 TPN_3303: q=30 alpha=20 beta=0 bp=45

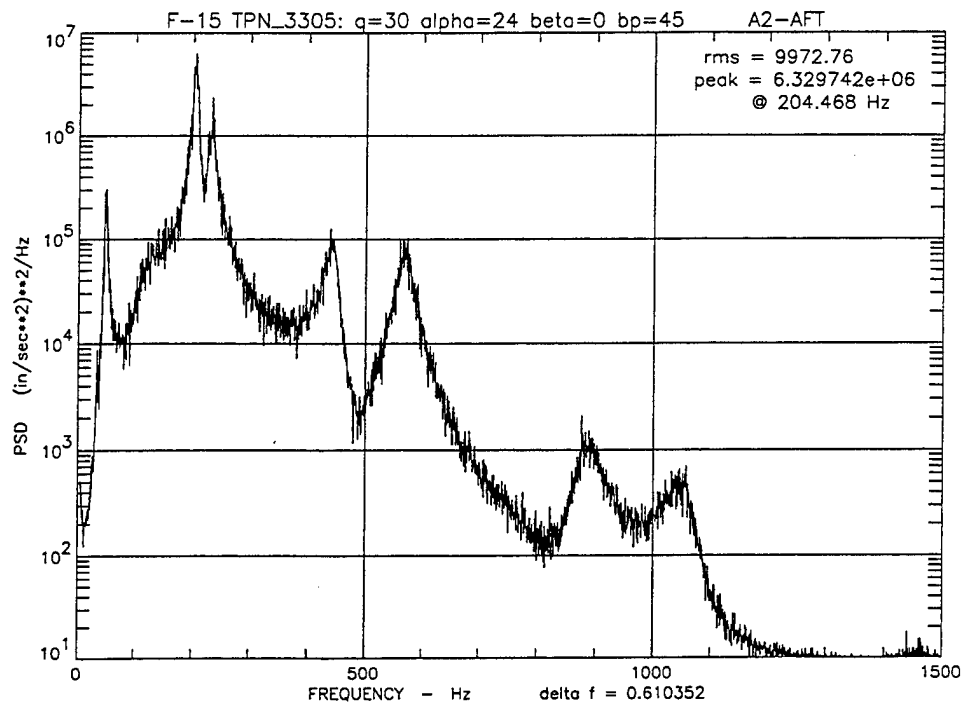


F-15 TPN_3303: q=30 alpha=20 beta=0 bp=45

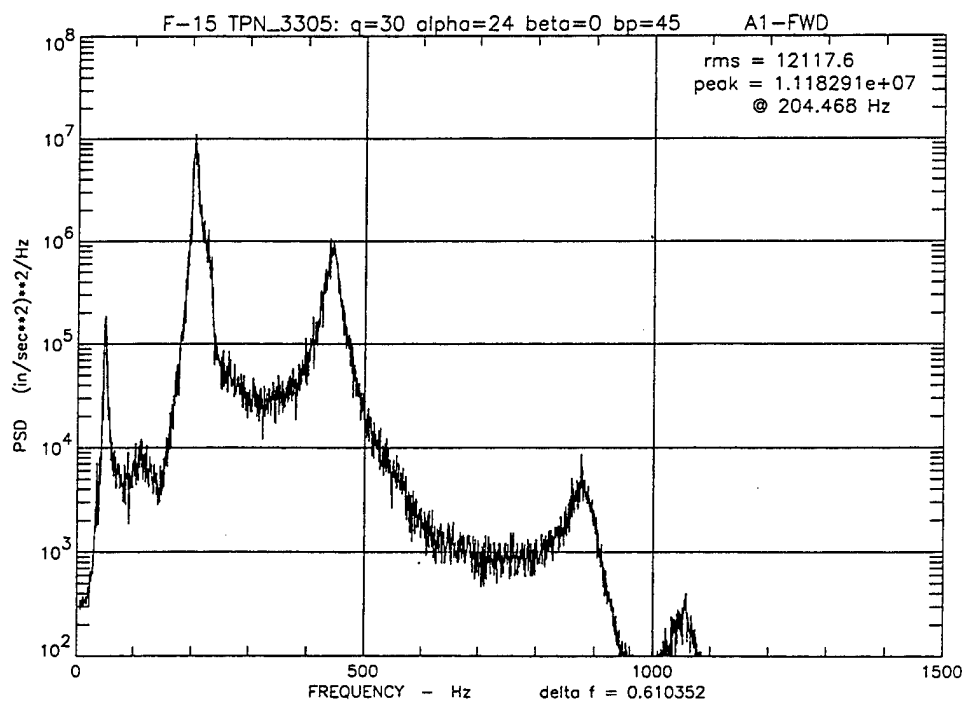


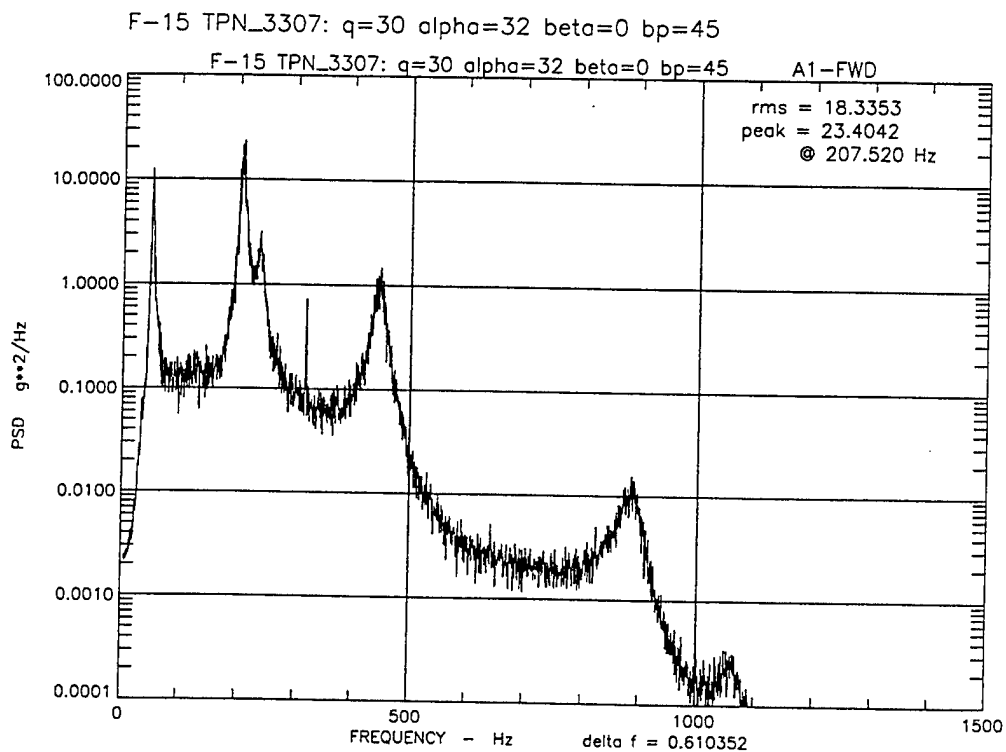
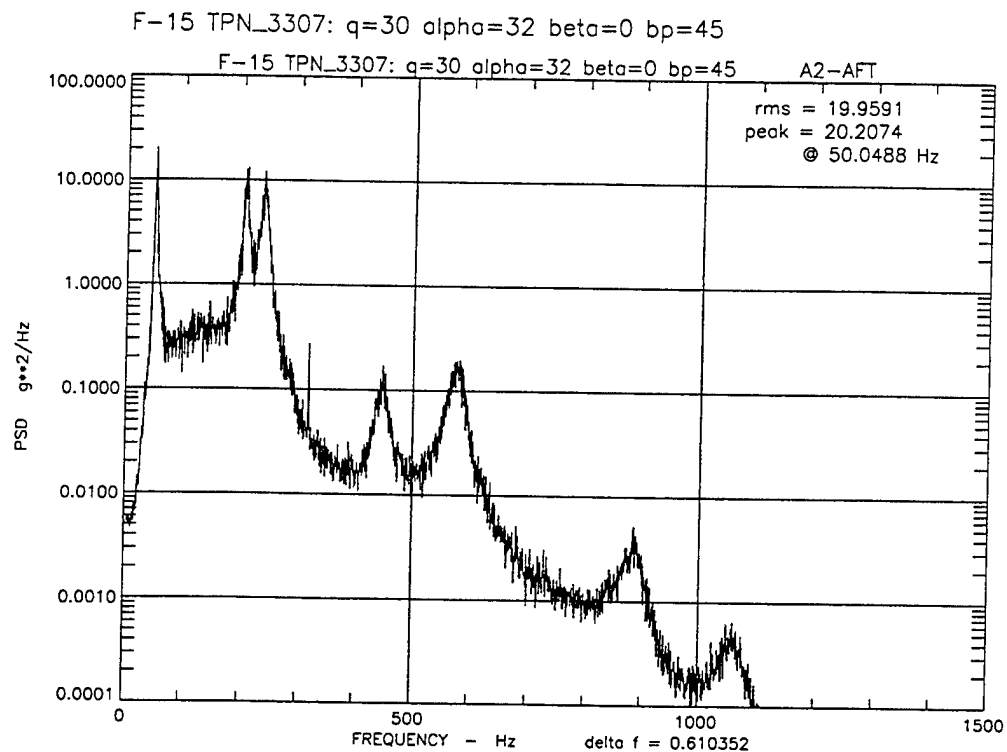


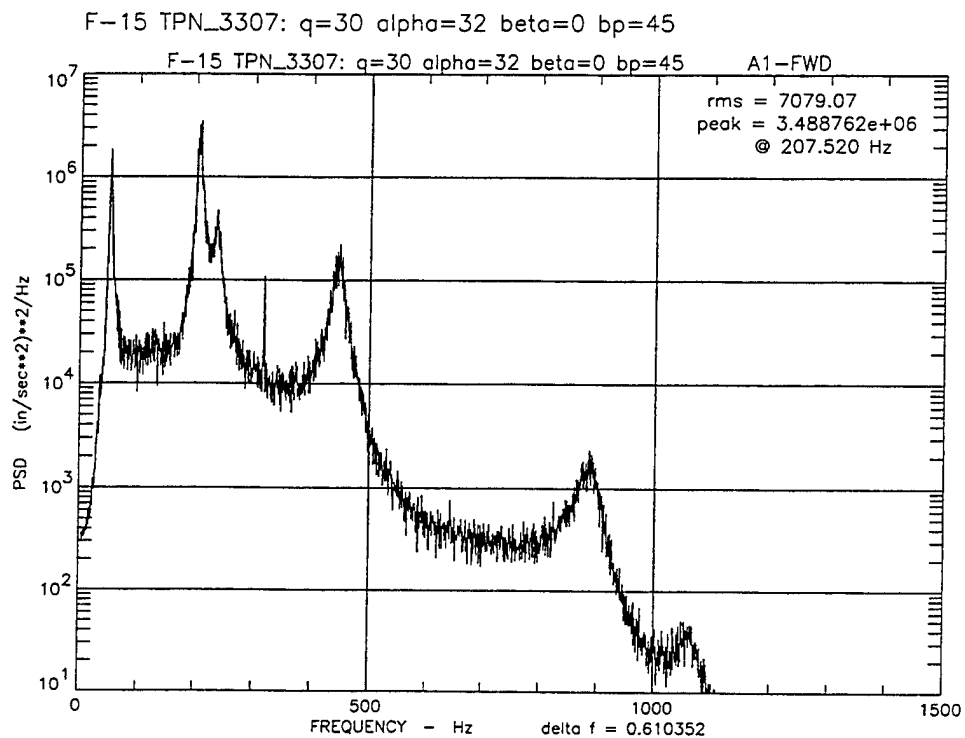
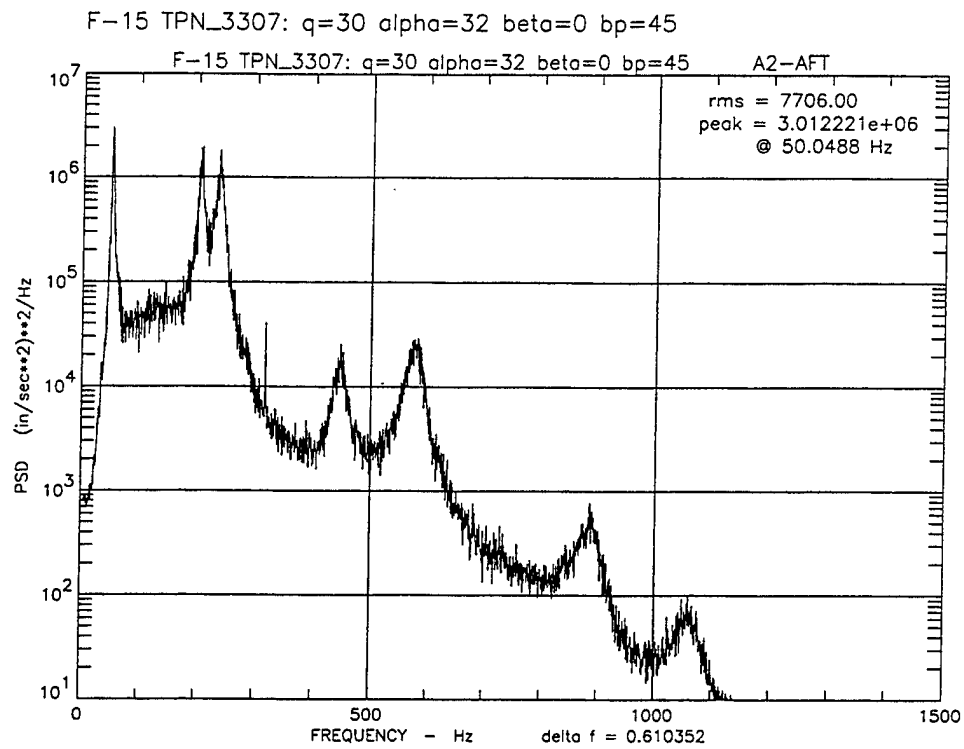
F-15 TPN_3305: q=30 alpha=24 beta=0 bp=45

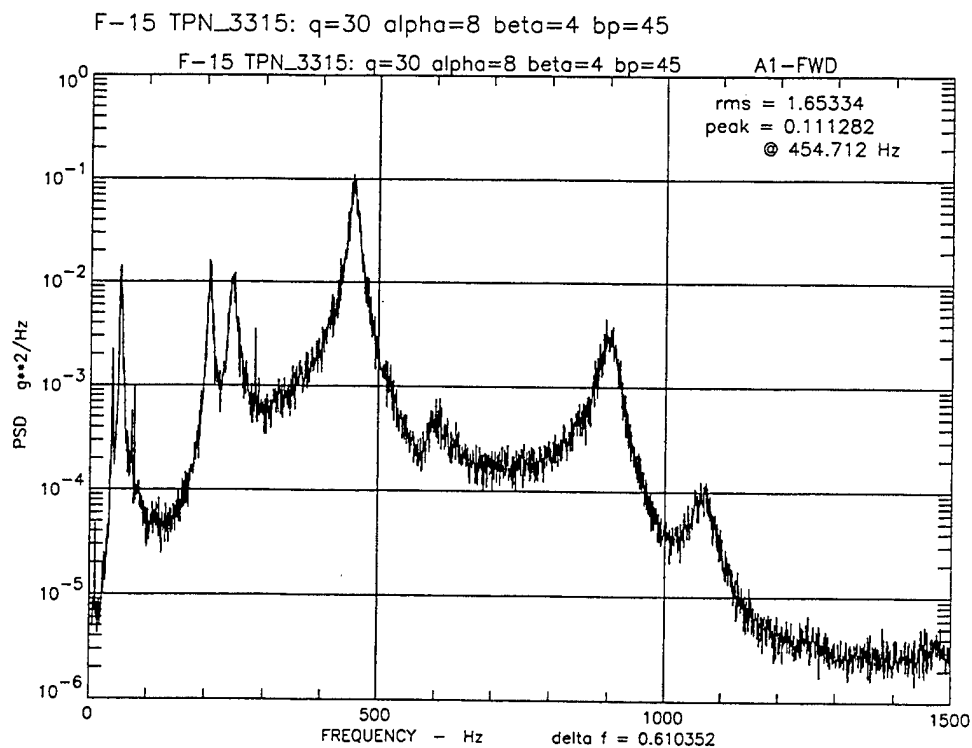
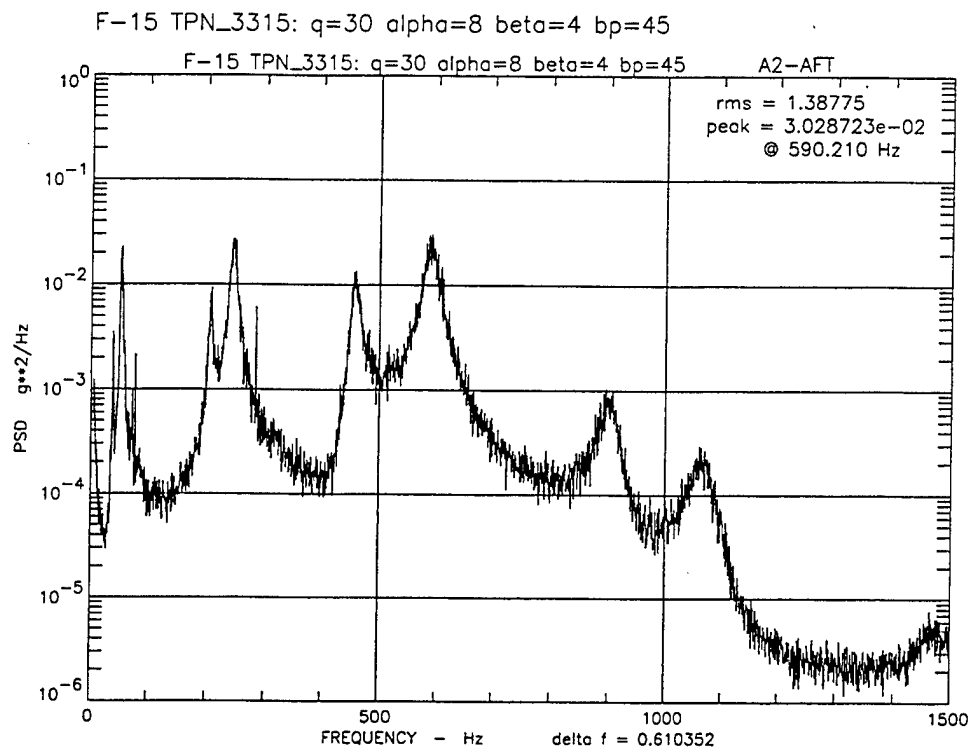


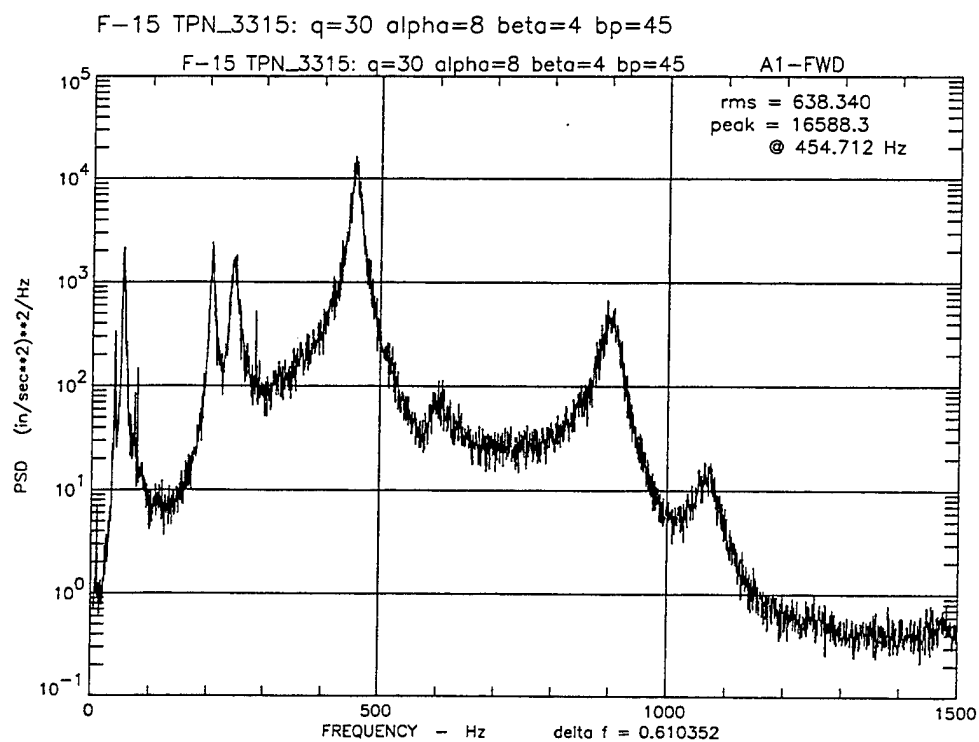
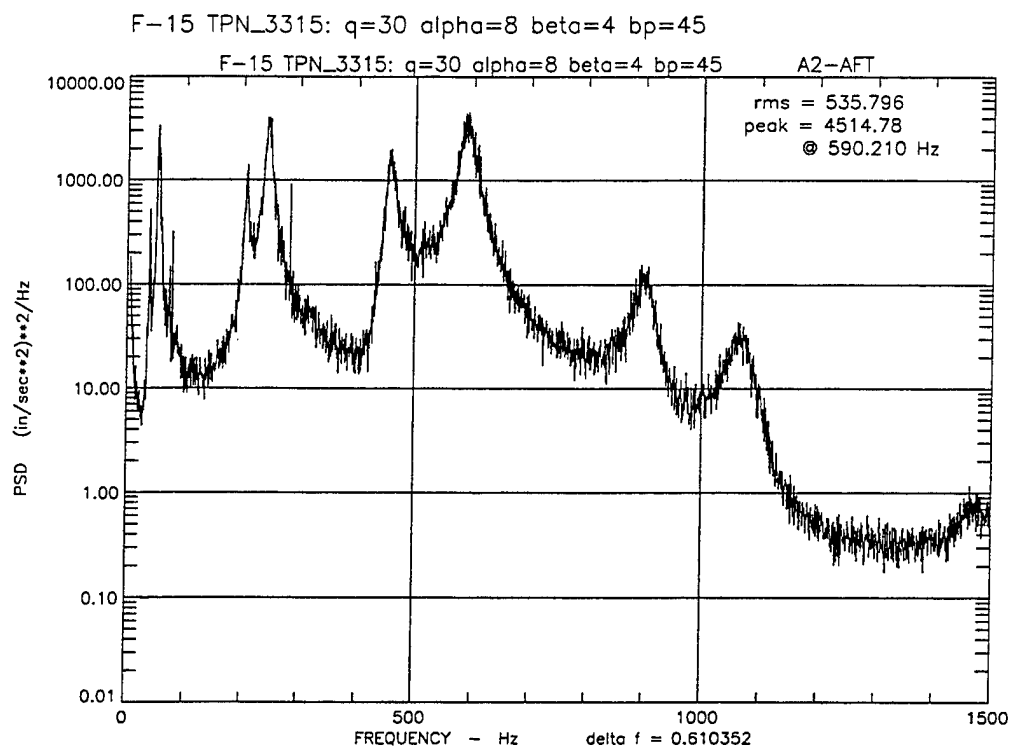
F-15 TPN_3305: q=30 alpha=24 beta=0 bp=45

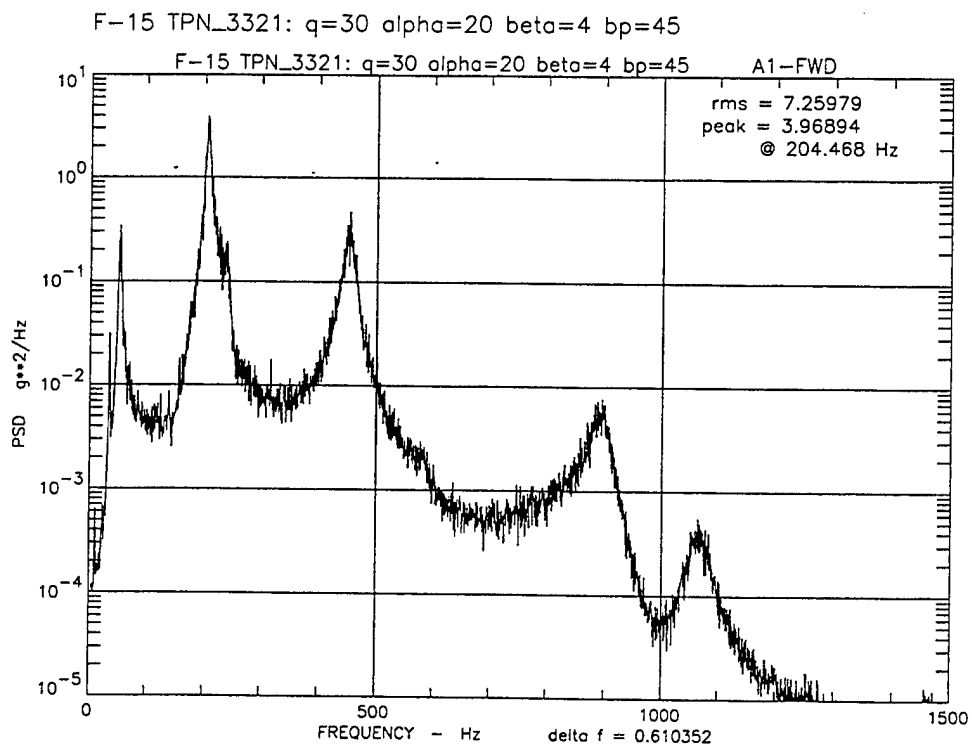
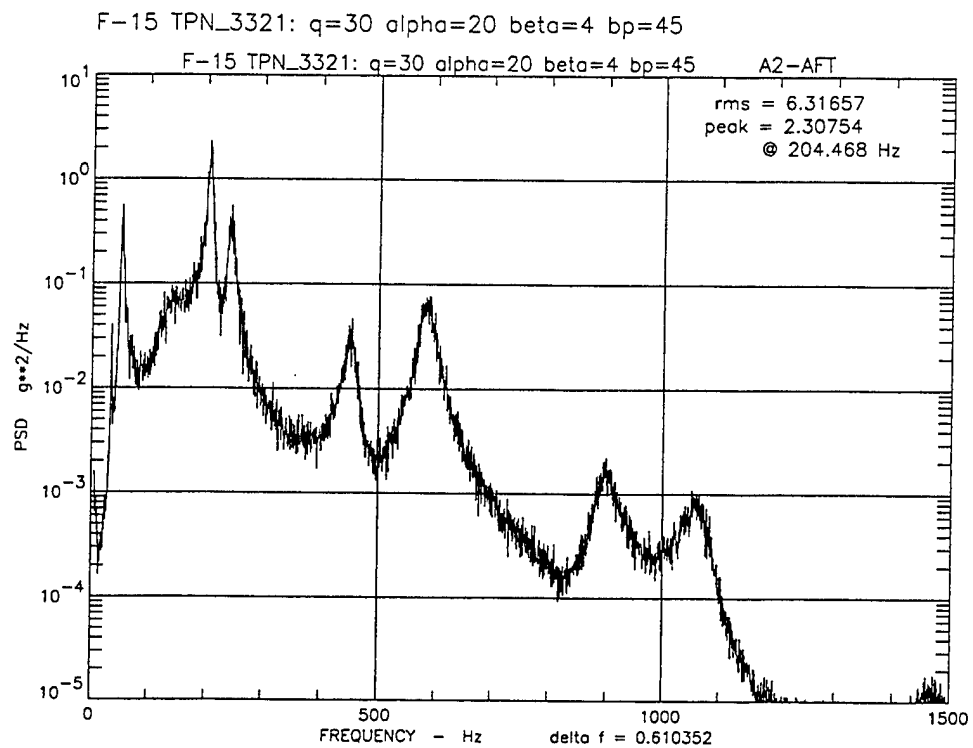


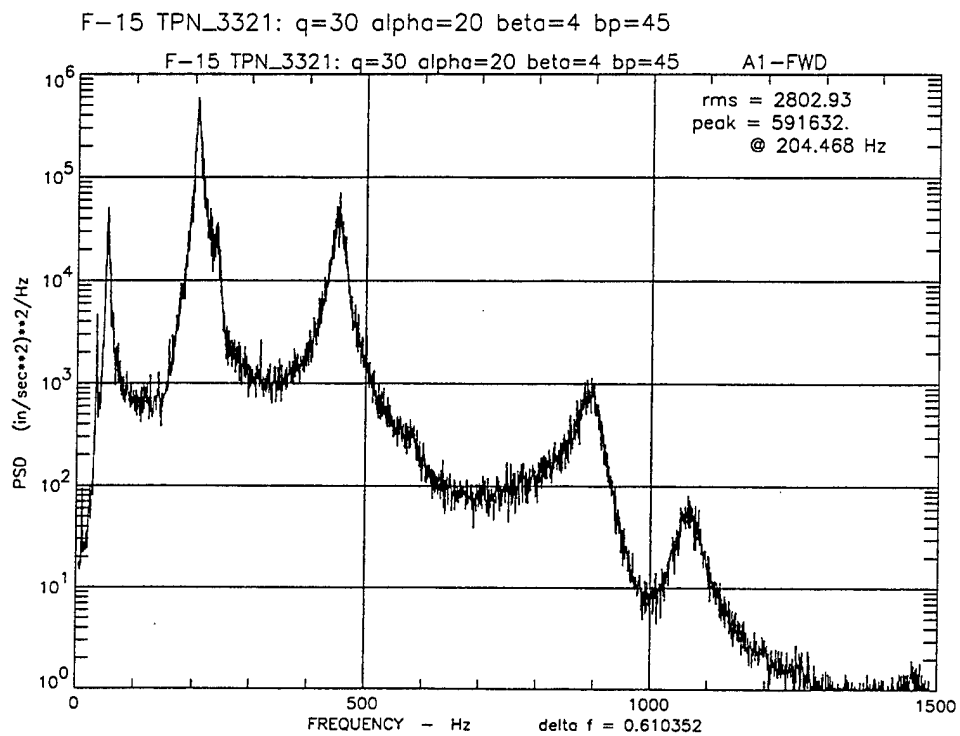
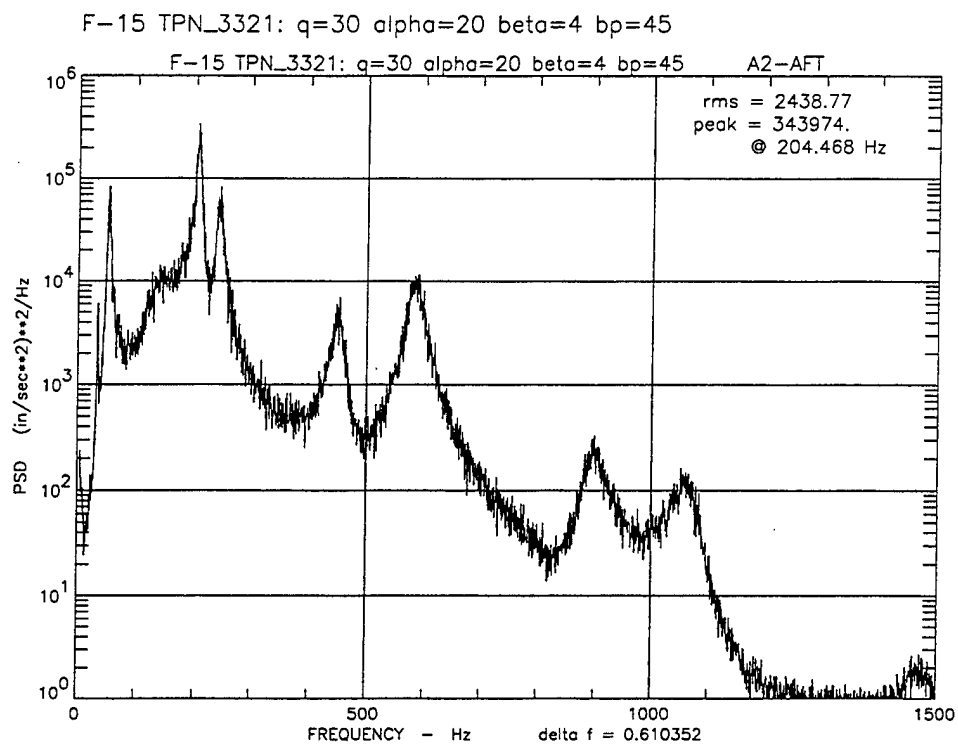




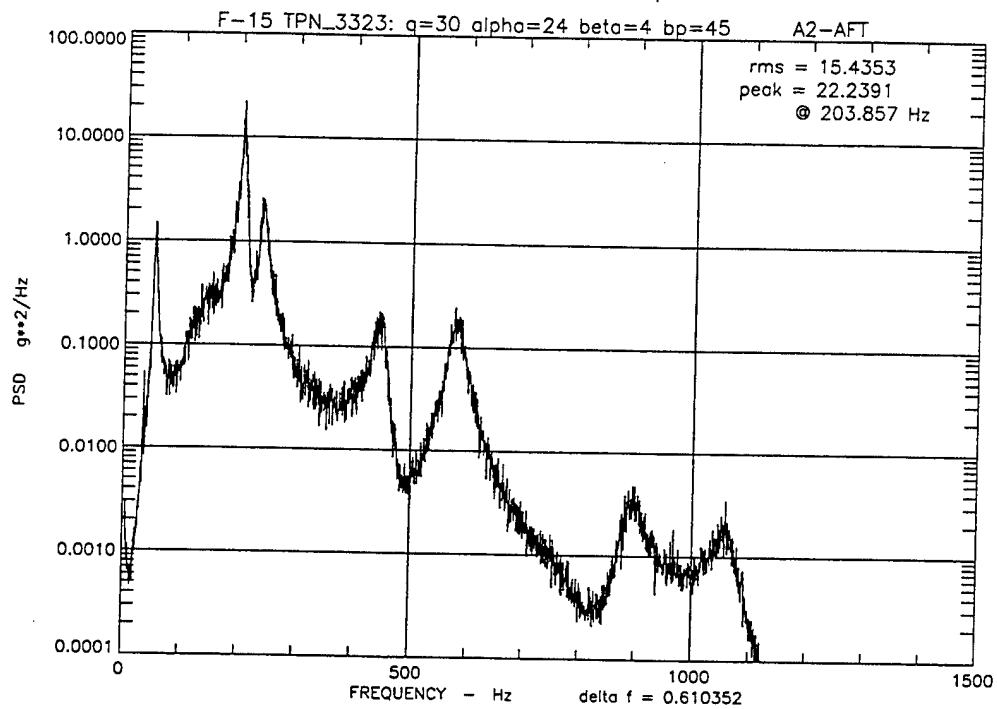




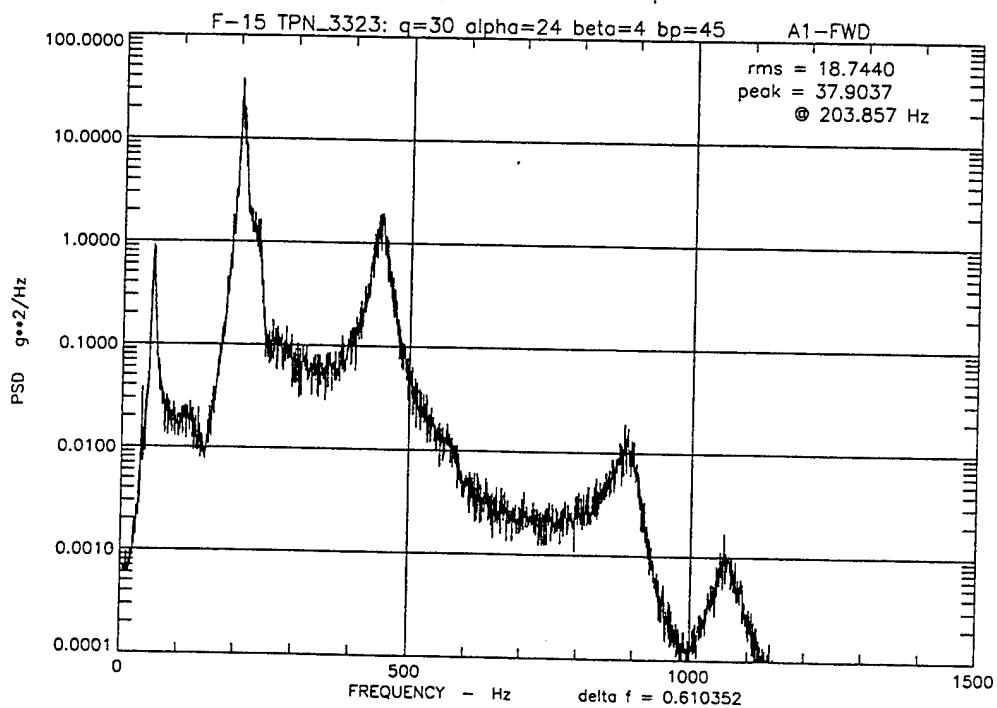




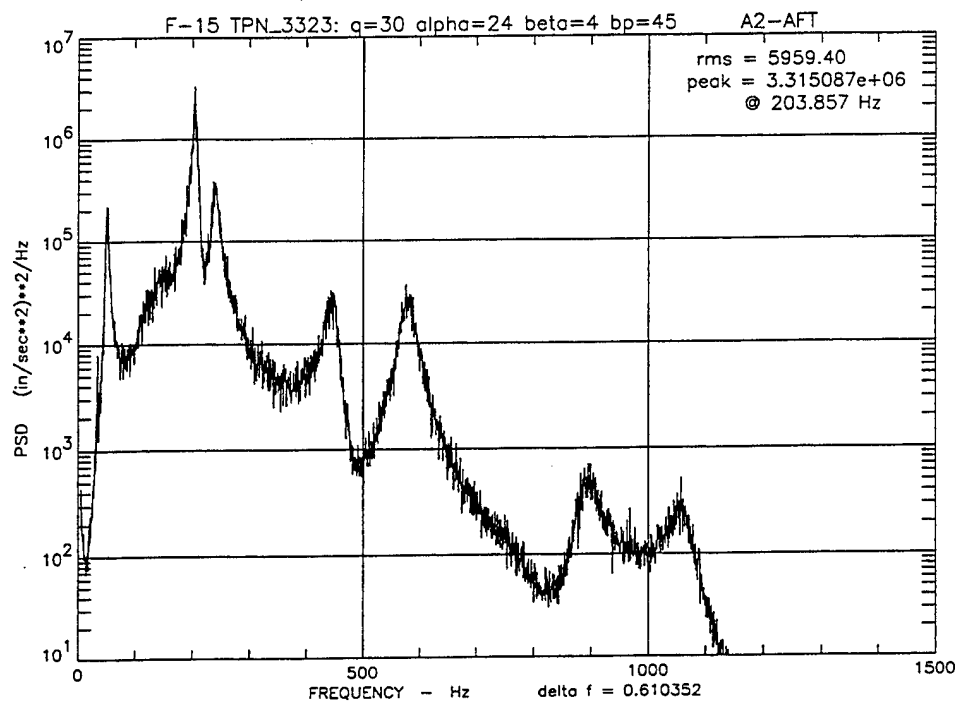
F-15 TPN_3323: q=30 alpha=24 beta=4 bp=45



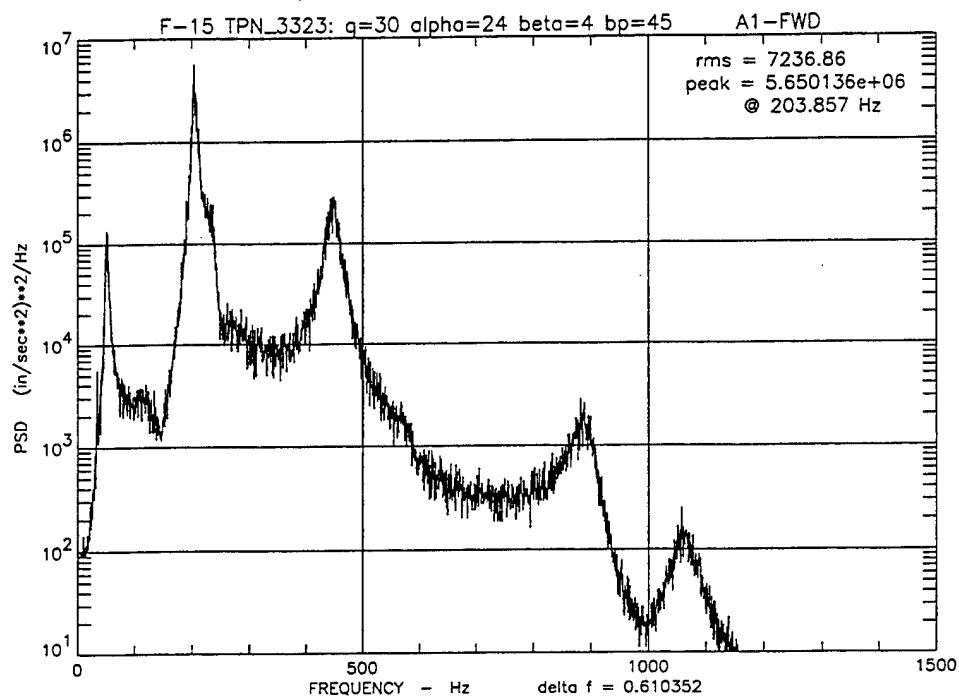
F-15 TPN_3323: q=30 alpha=24 beta=4 bp=45



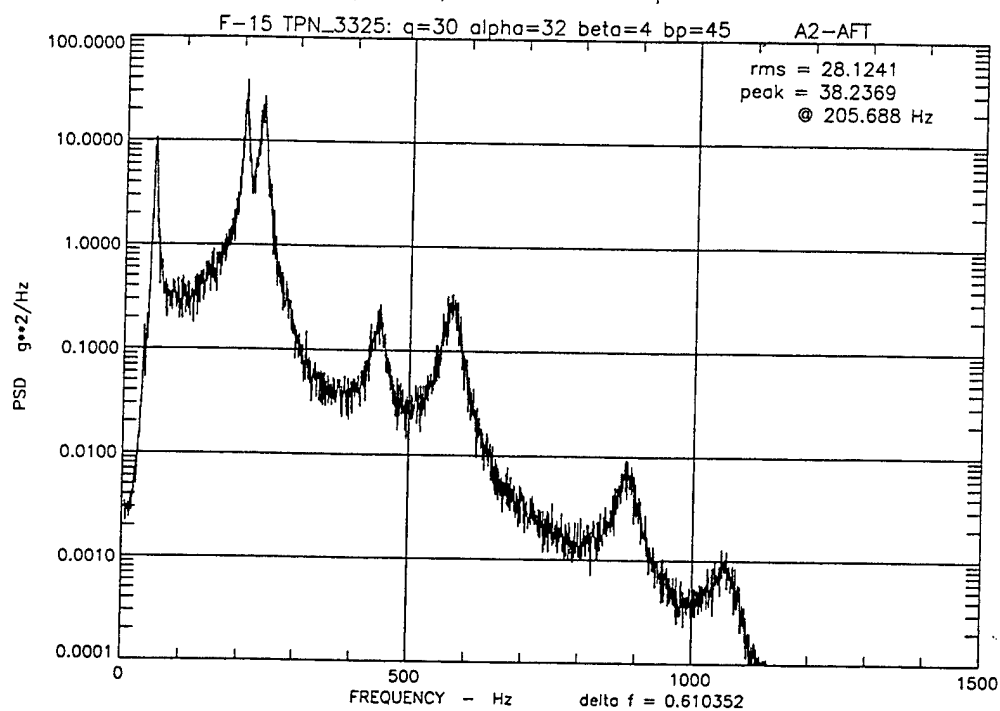
F-15 TPN_3323: q=30 alpha=24 beta=4 bp=45



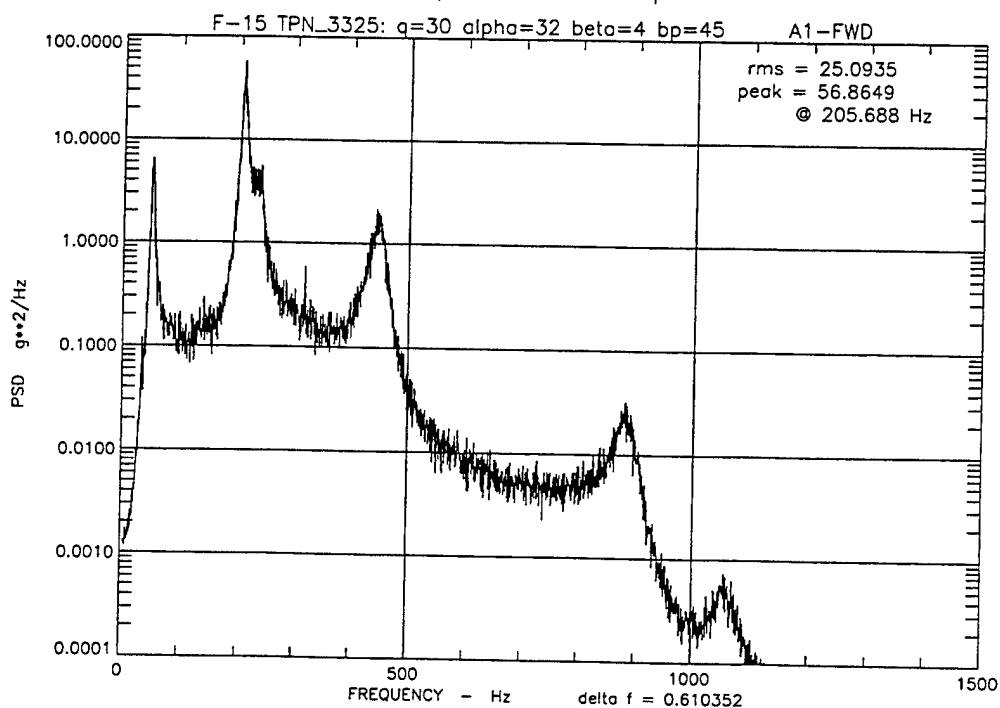
F-15 TPN_3323: q=30 alpha=24 beta=4 bp=45

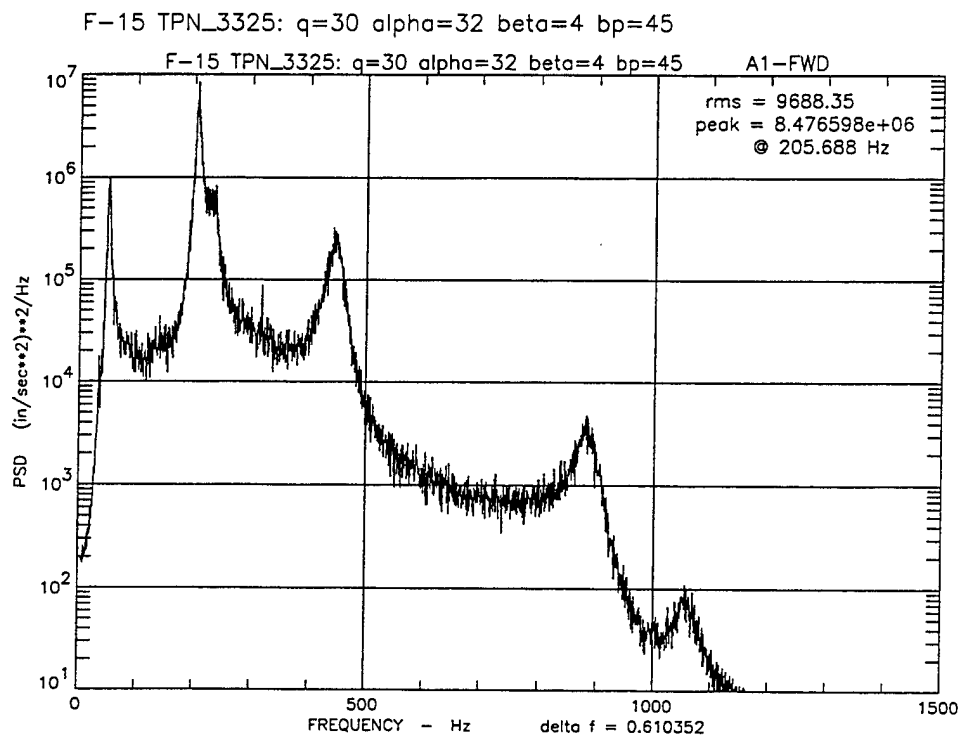
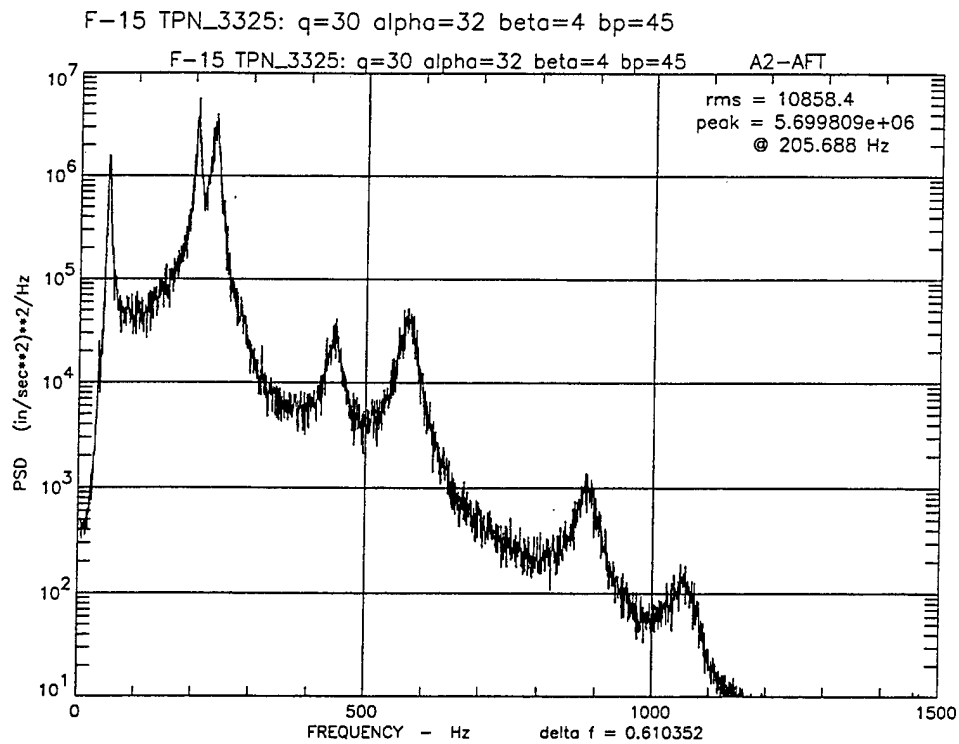


F-15 TPN_3325: q=30 alpha=32 beta=4 bp=45



F-15 TPN_3325: q=30 alpha=32 beta=4 bp=45





FLEXIBLE TAIL RESPONSE

ACCELERATION DATA

Q= 30 PSF

PSD GRAPHS

4.1.2.2 BENDING(LINEAR AT EA) beta= 0, +4, -4 Deg, WBP = 0, 45 psi

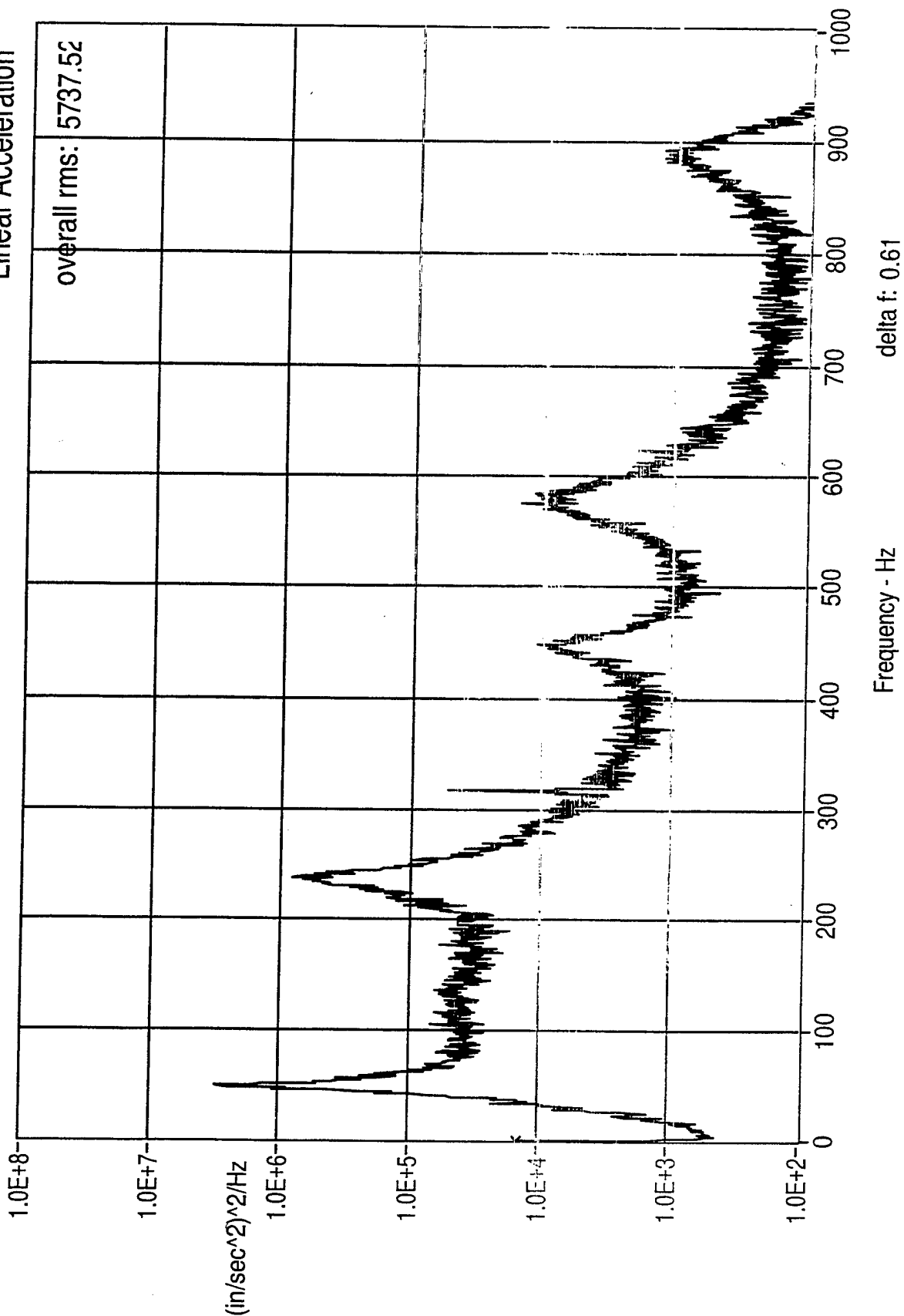
ALPHAS = 8, 20, 24, 32 DEG

(note, the dimensional graphs $(\text{in/sec})^2/\text{hz}$ are in a block, while the graphs $(\text{g's})^2/\text{hz}$ are in a second block. data is further blocked off by blowing pressures, with beta variation within.

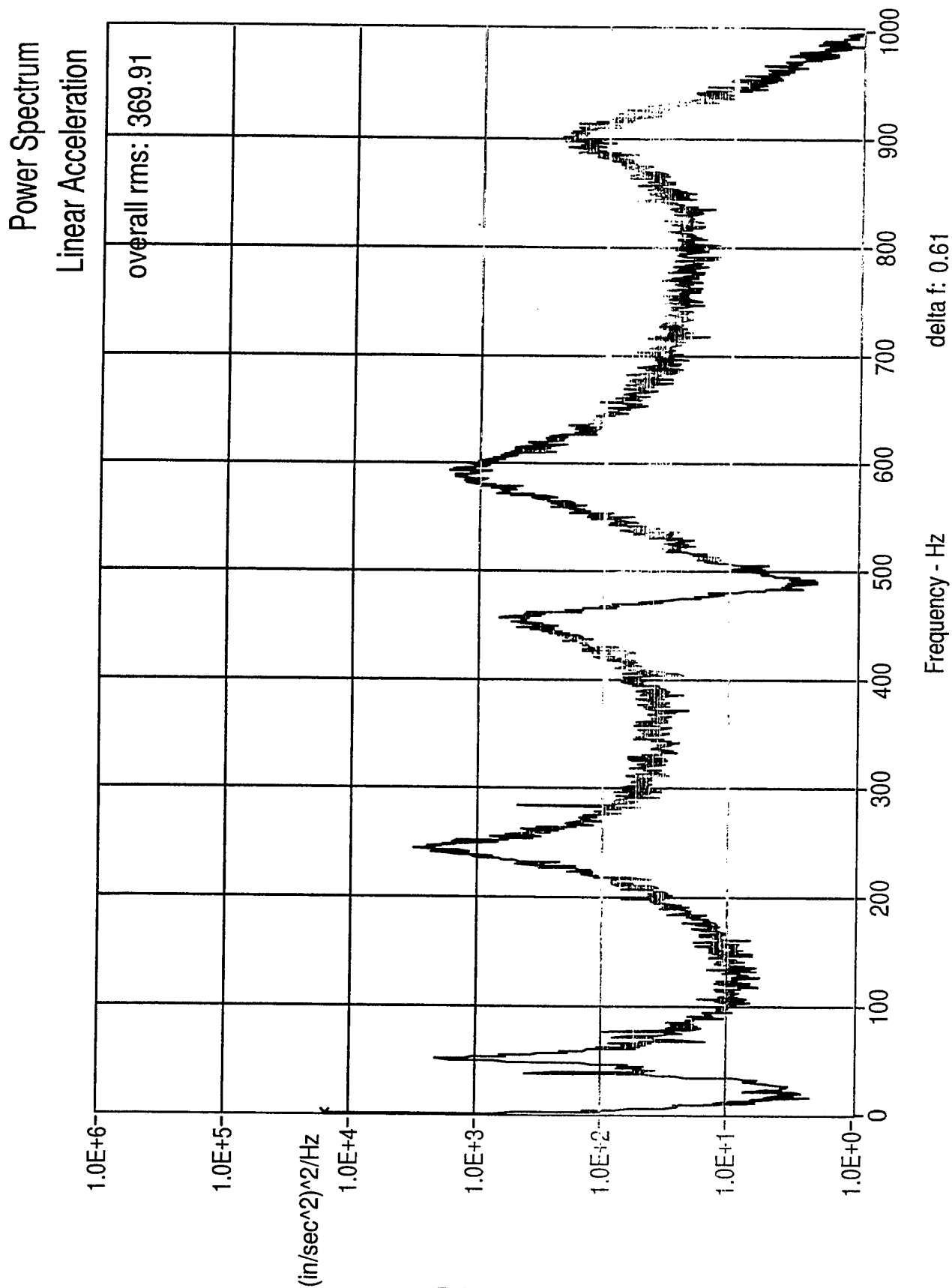
F-15 TPN_3253: q=30 alpha=32 beta=0 bp=0

Power Spectrum

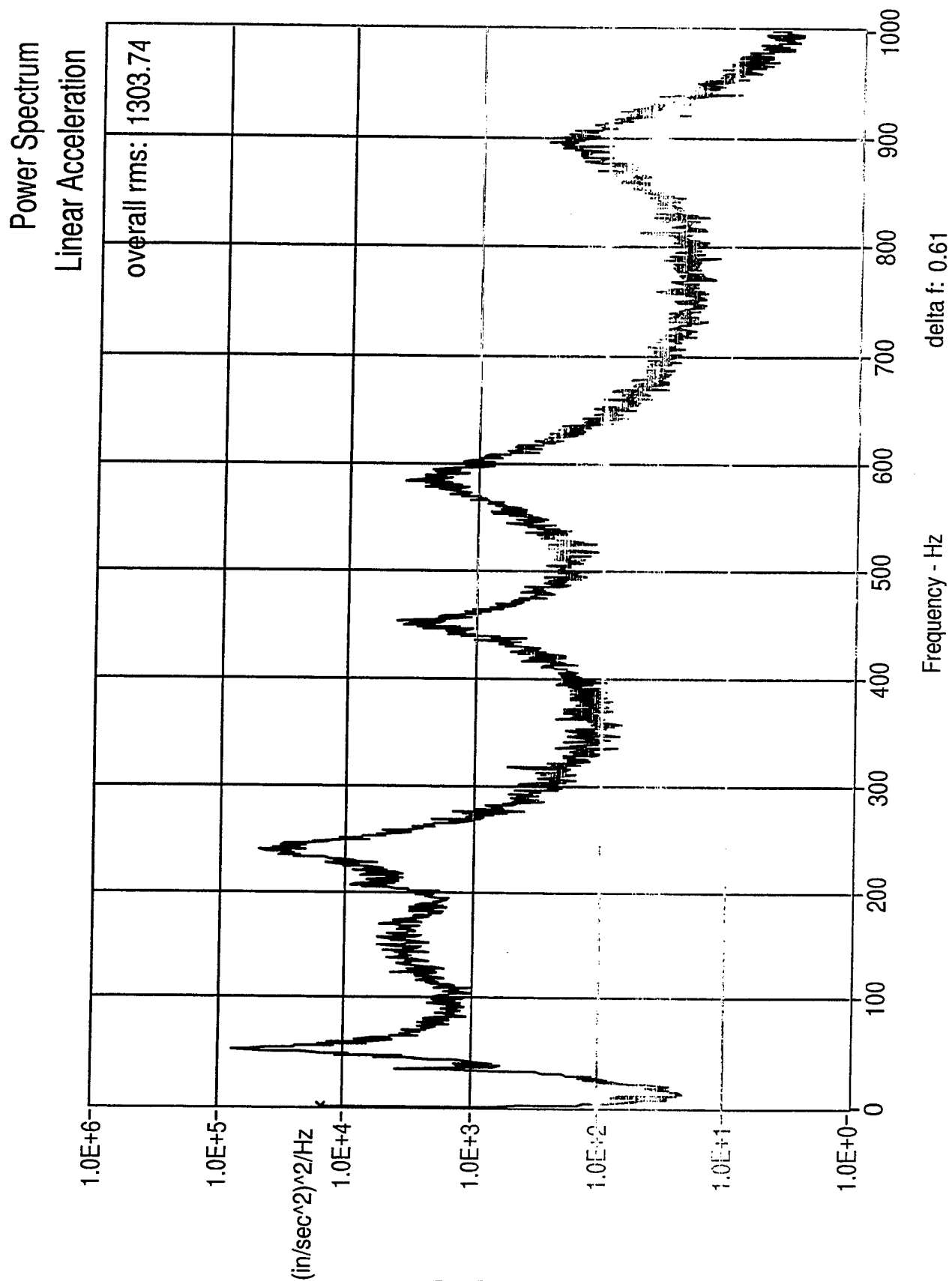
Linear Acceleration



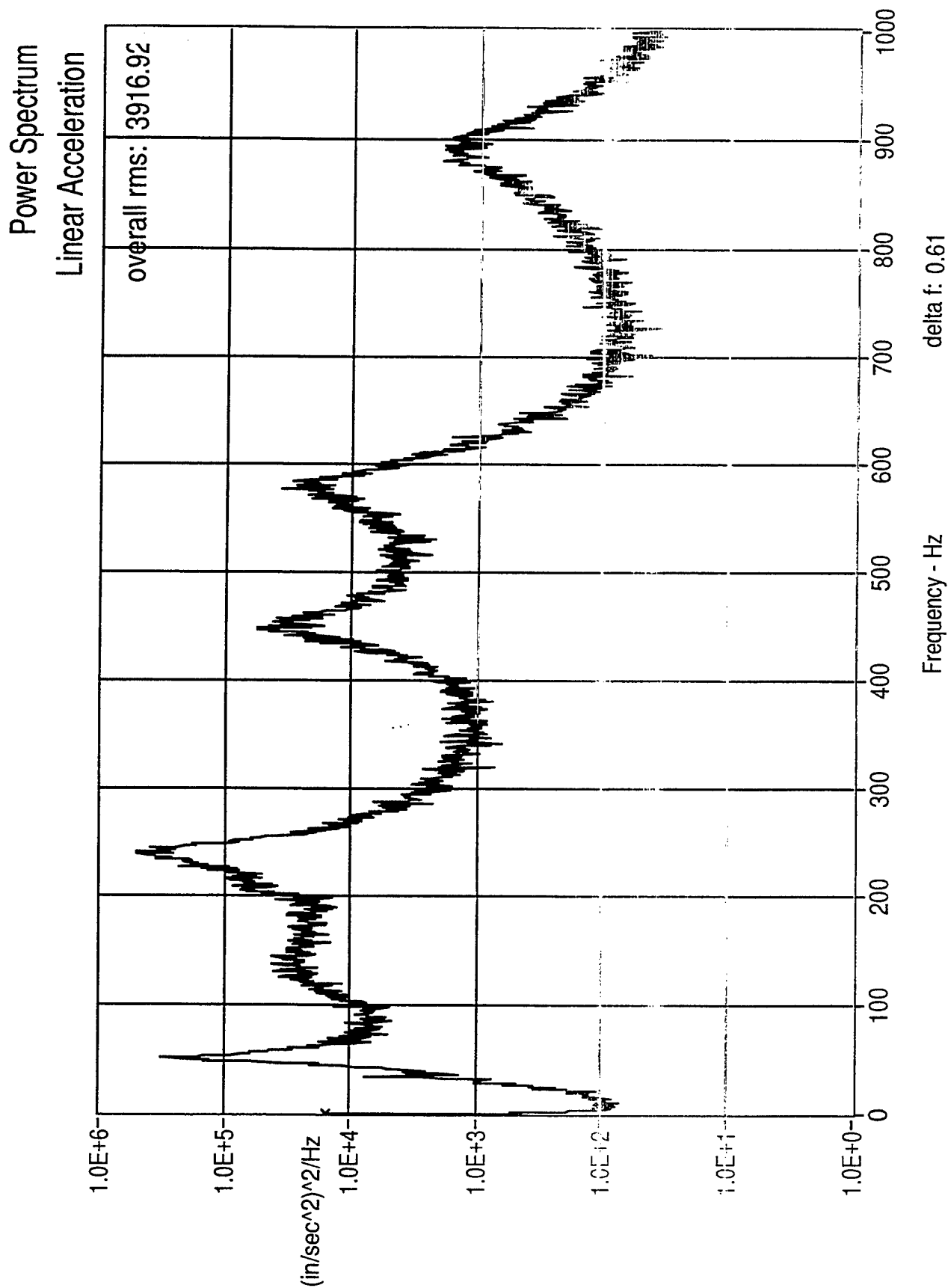
F-15 TPN_3261: q=30 alpha=8 beta=4 bp=0



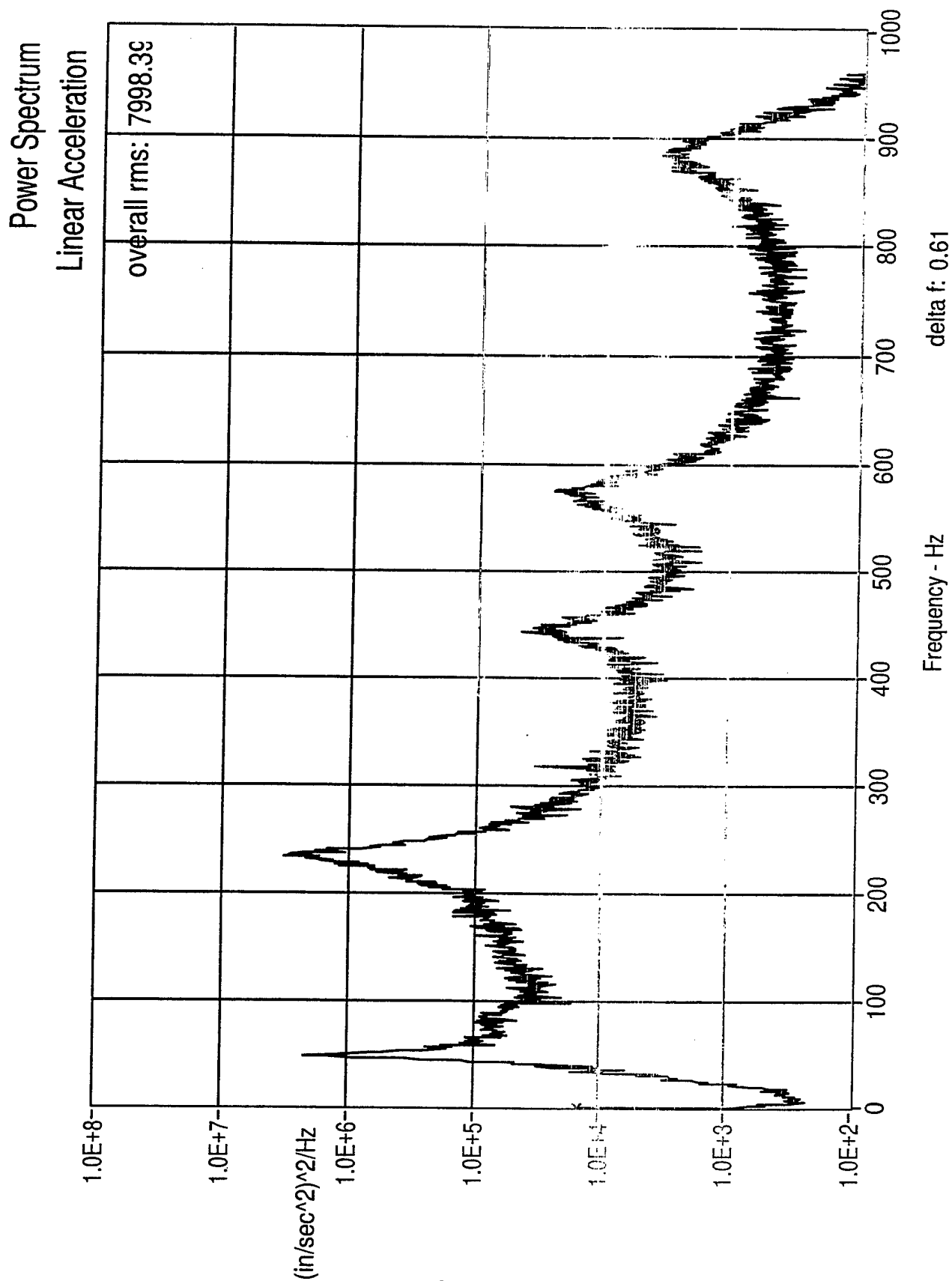
F-15 TPN_3267: q=30 alpha=20 beta=4 bp=0



F-15 TPN_3269: q=30 alpha=24 beta=4 bp=0

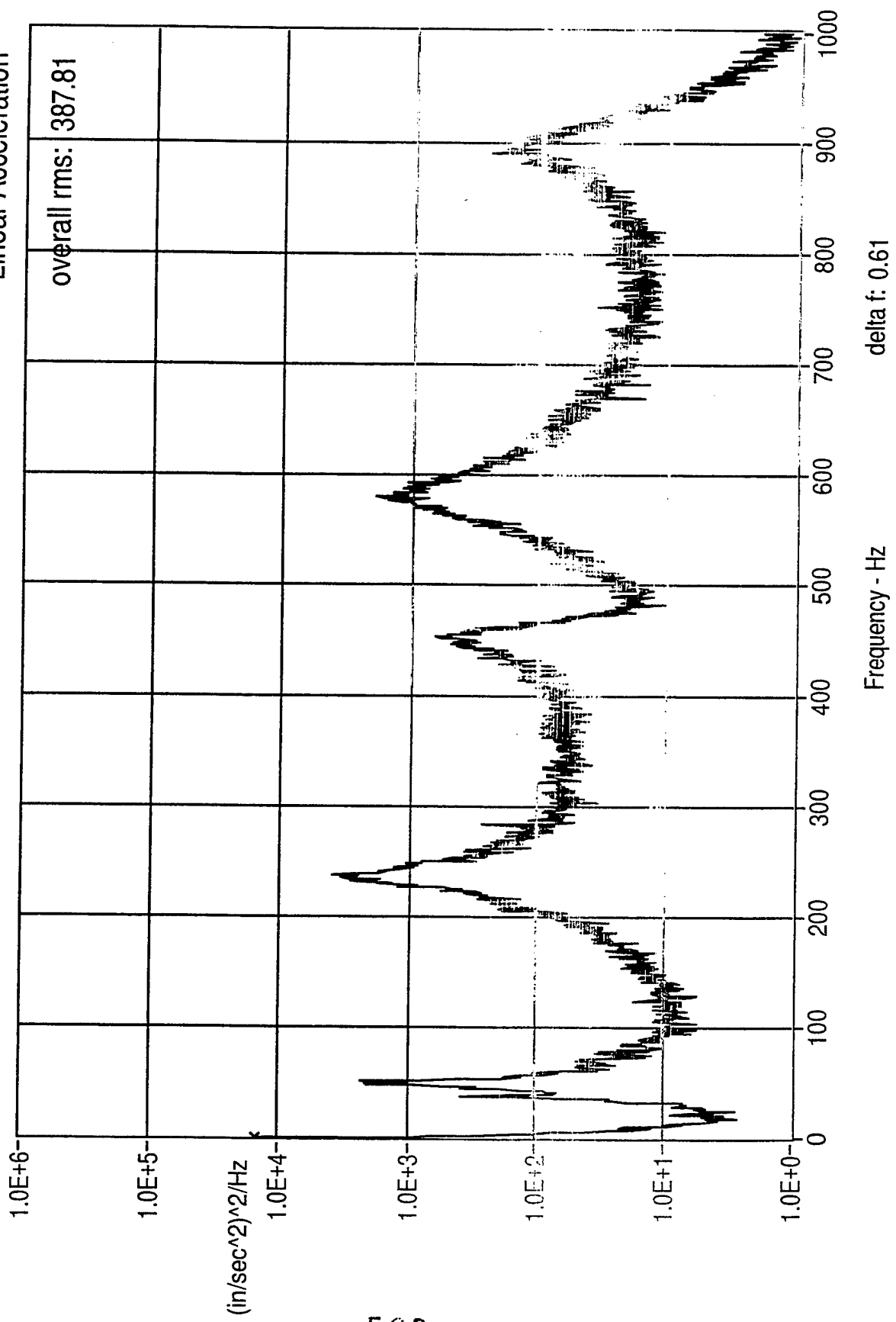


F-15 TPN_3271: q=30 alpha=32 beta=4 bp=0

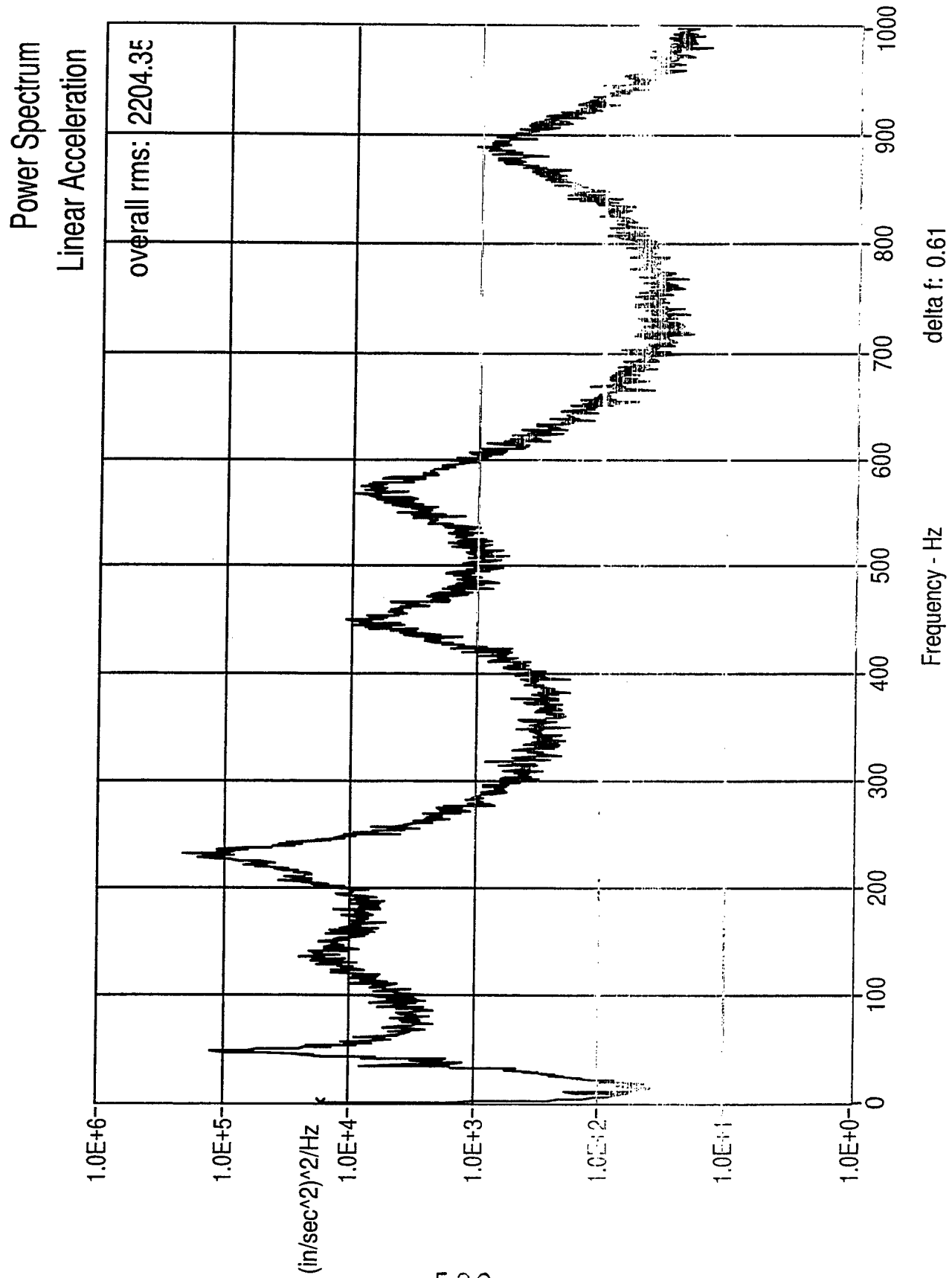


F-15 TPN_3297: q=30 alpha=8 beta=0 bp=45

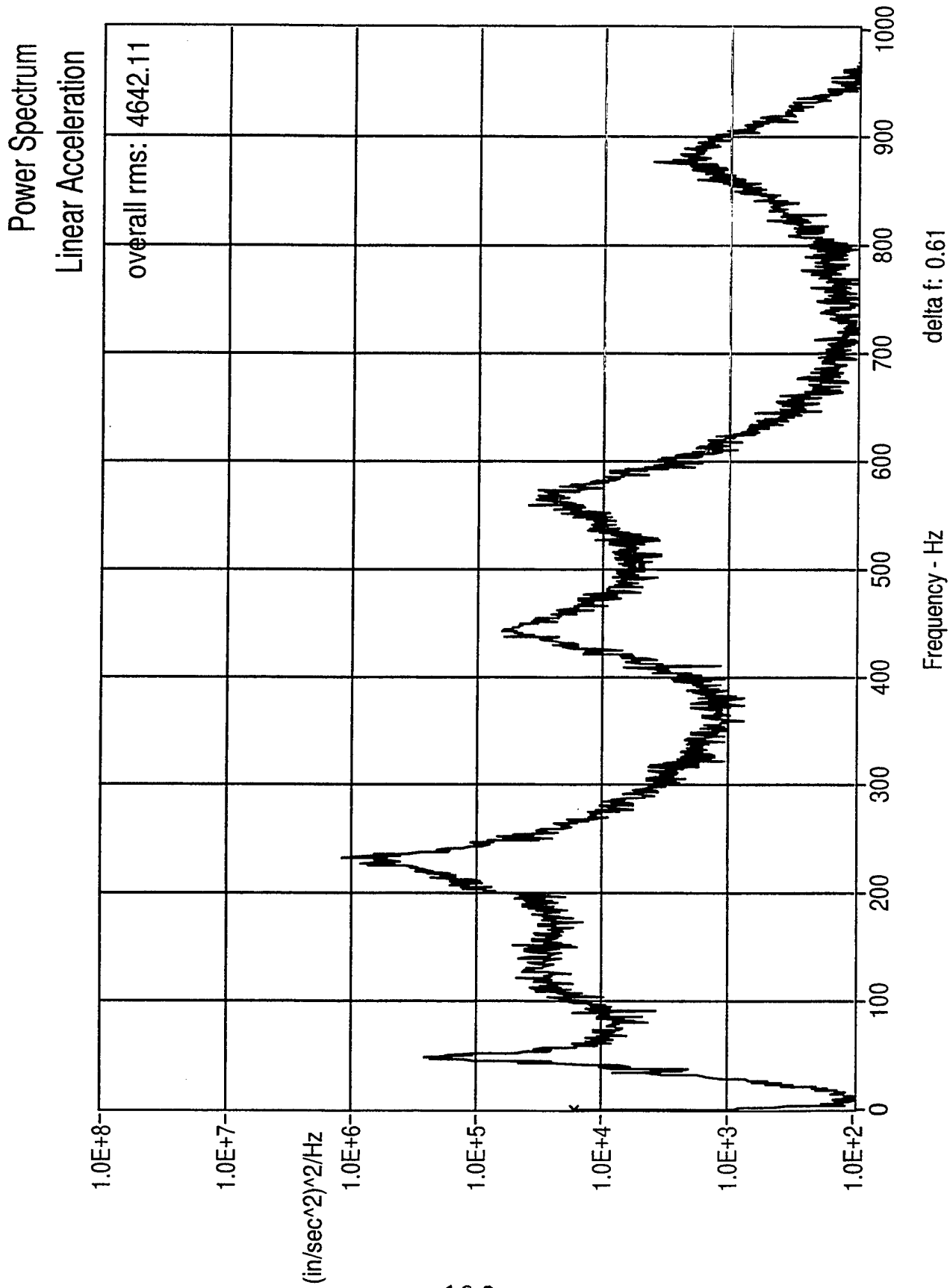
Power Spectrum
Linear Acceleration



F-15 TPN_3303: q=30 alpha=20 beta=0 bp=45

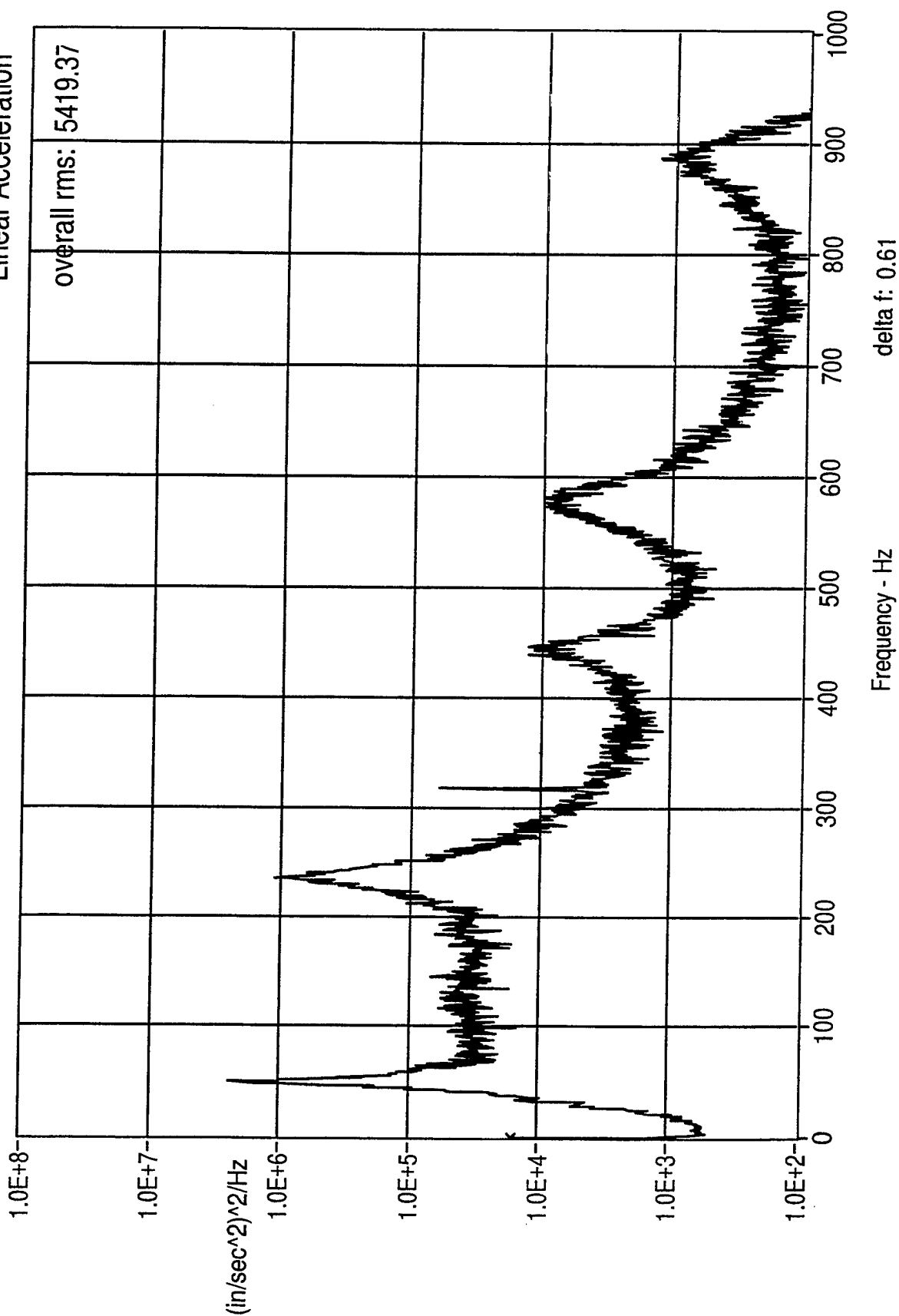


F-15 TPN_3305: q=30 alpha=24 beta=0 bp=45

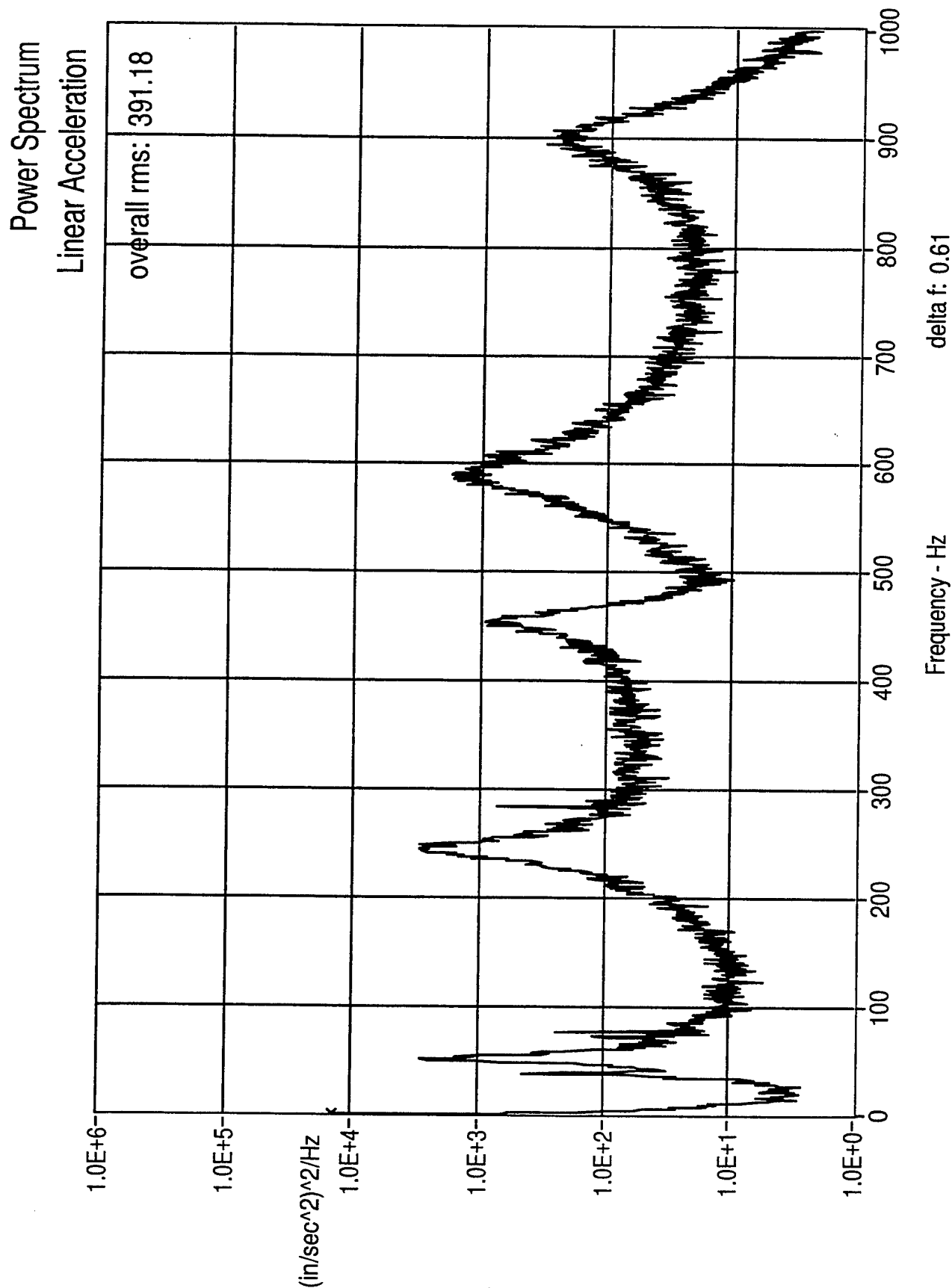


F-15 TPN_3307: q=30 alpha=32 beta=0 bp=45

Power Spectrum
Linear Acceleration



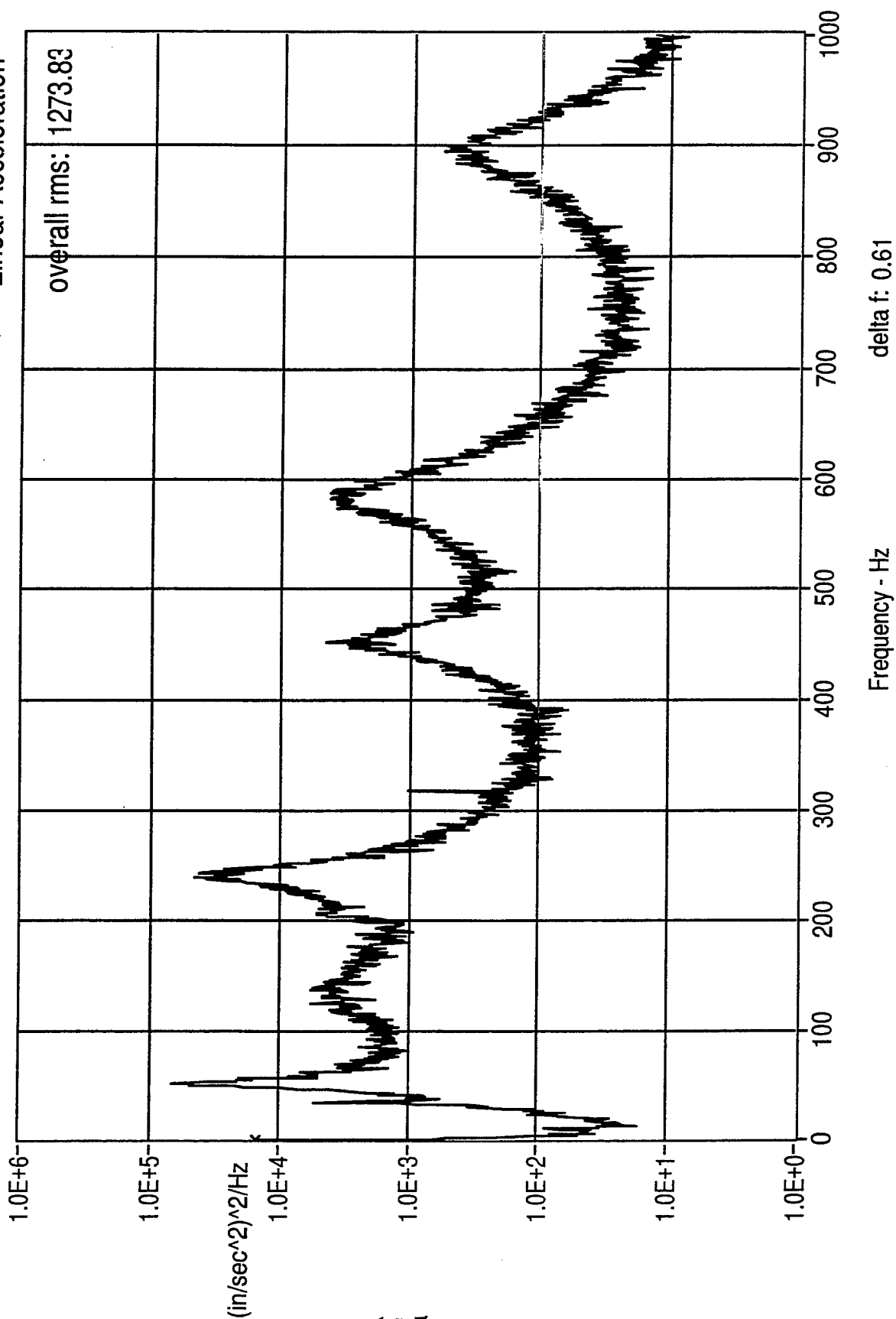
F-15 TPN_3315: q=30 alpha=8 beta=4 bp=45



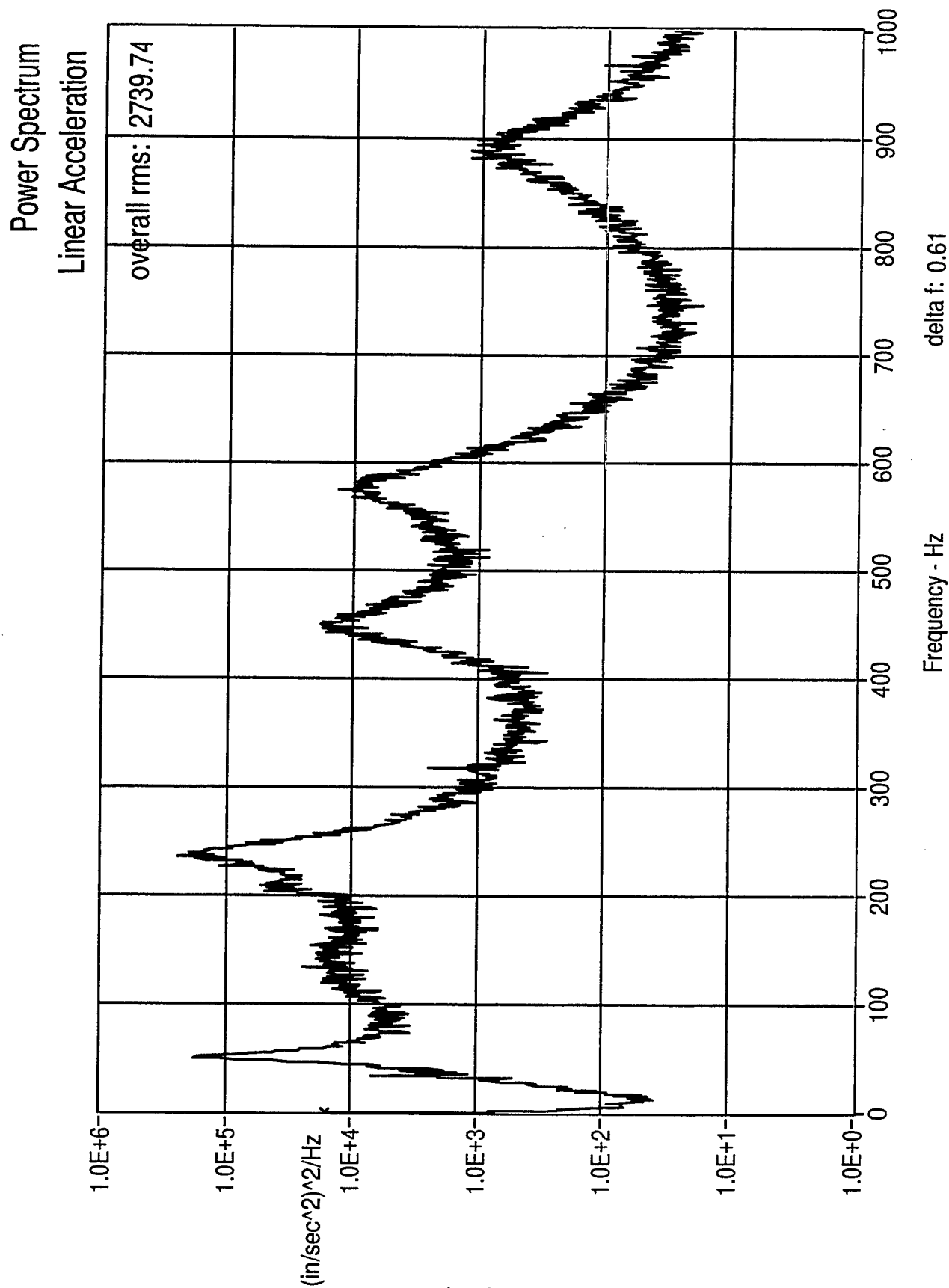
F-15 TPN_3321: q=30 alpha=20 beta=4 bp=45

Power Spectrum

Linear Acceleration

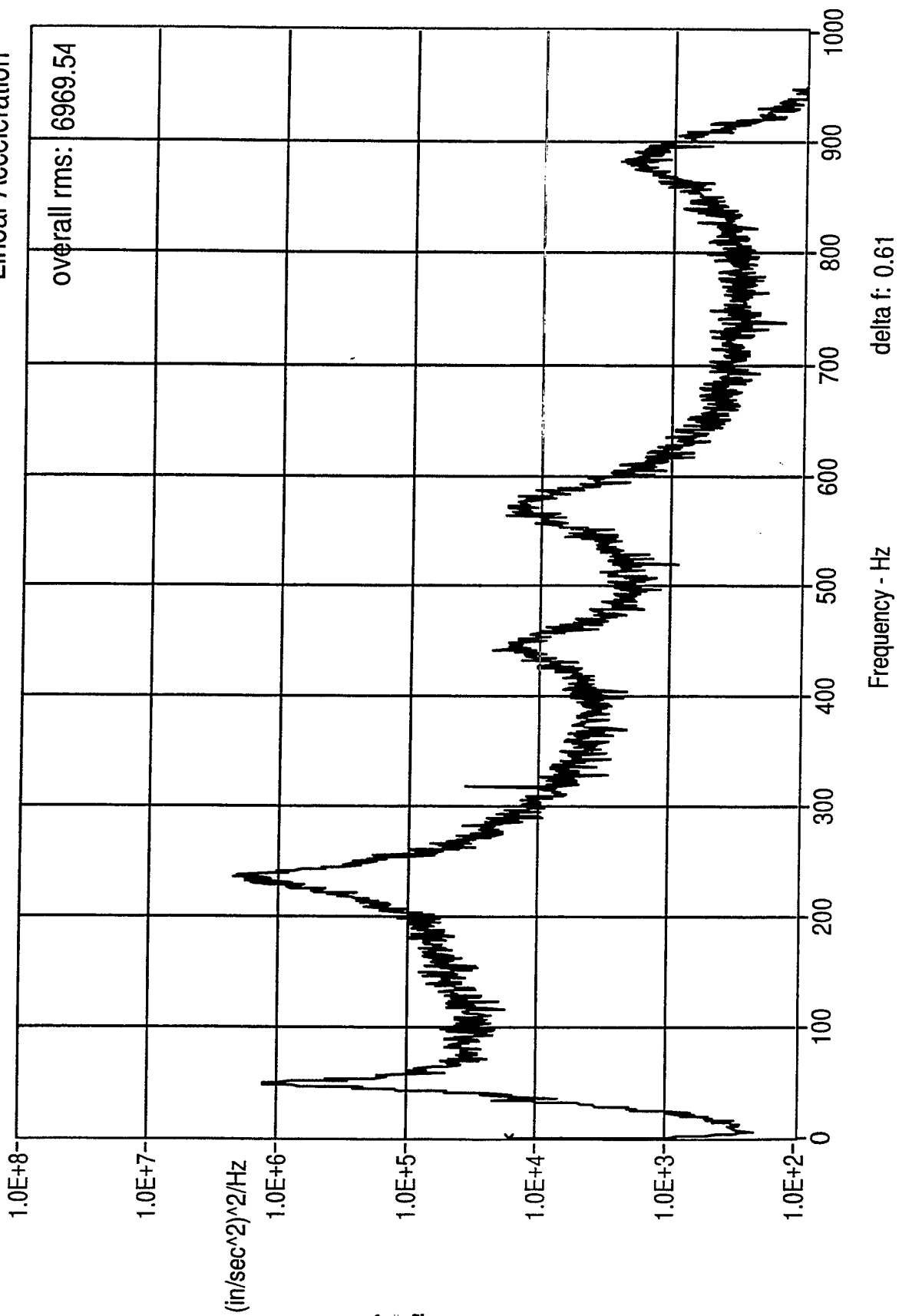


F-15 TPN_3323: q=30 alpha=24 beta=4 bp=45



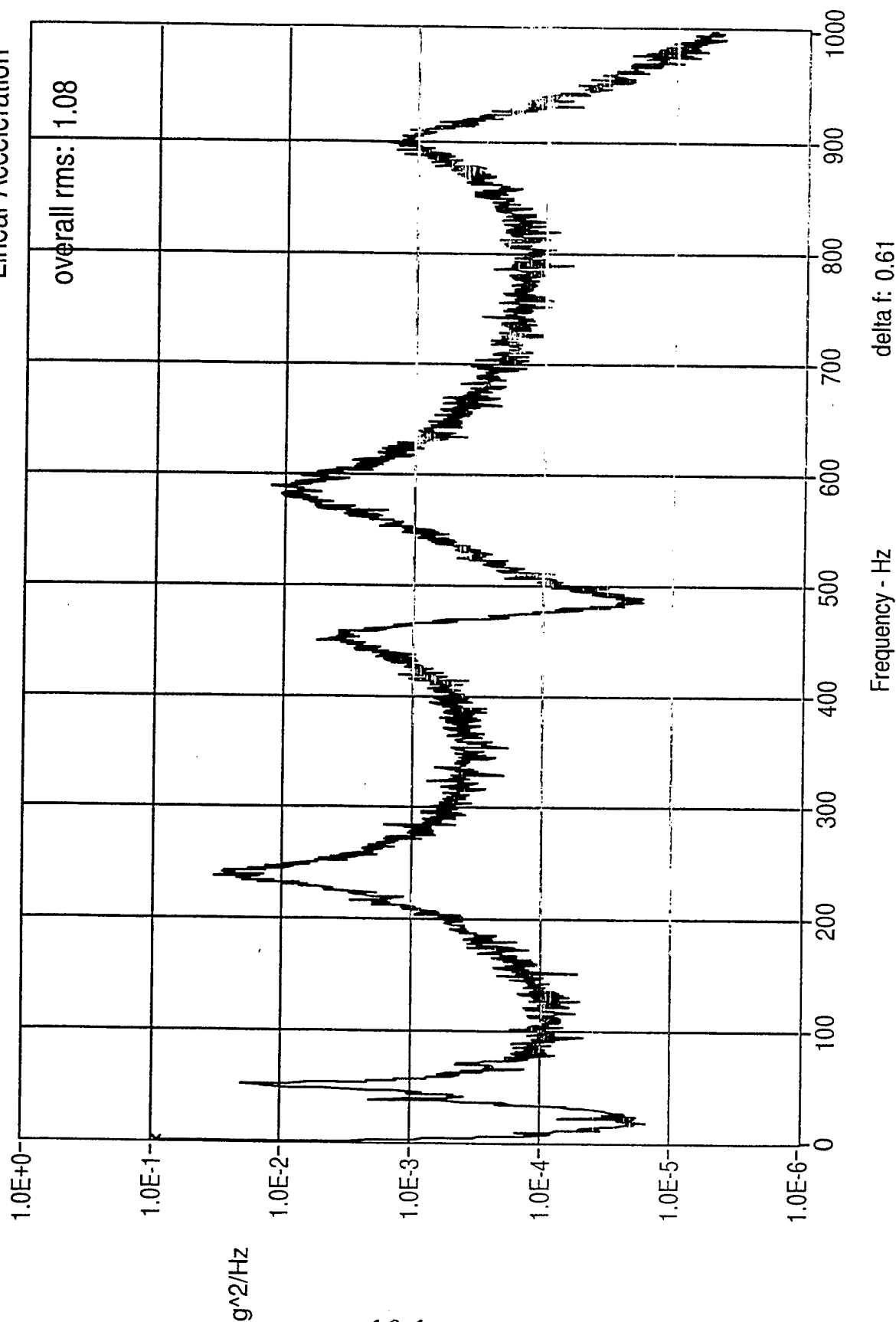
F-15 TPN_3325: q=30 alpha=32 beta=4 bp=45

Power Spectrum
Linear Acceleration

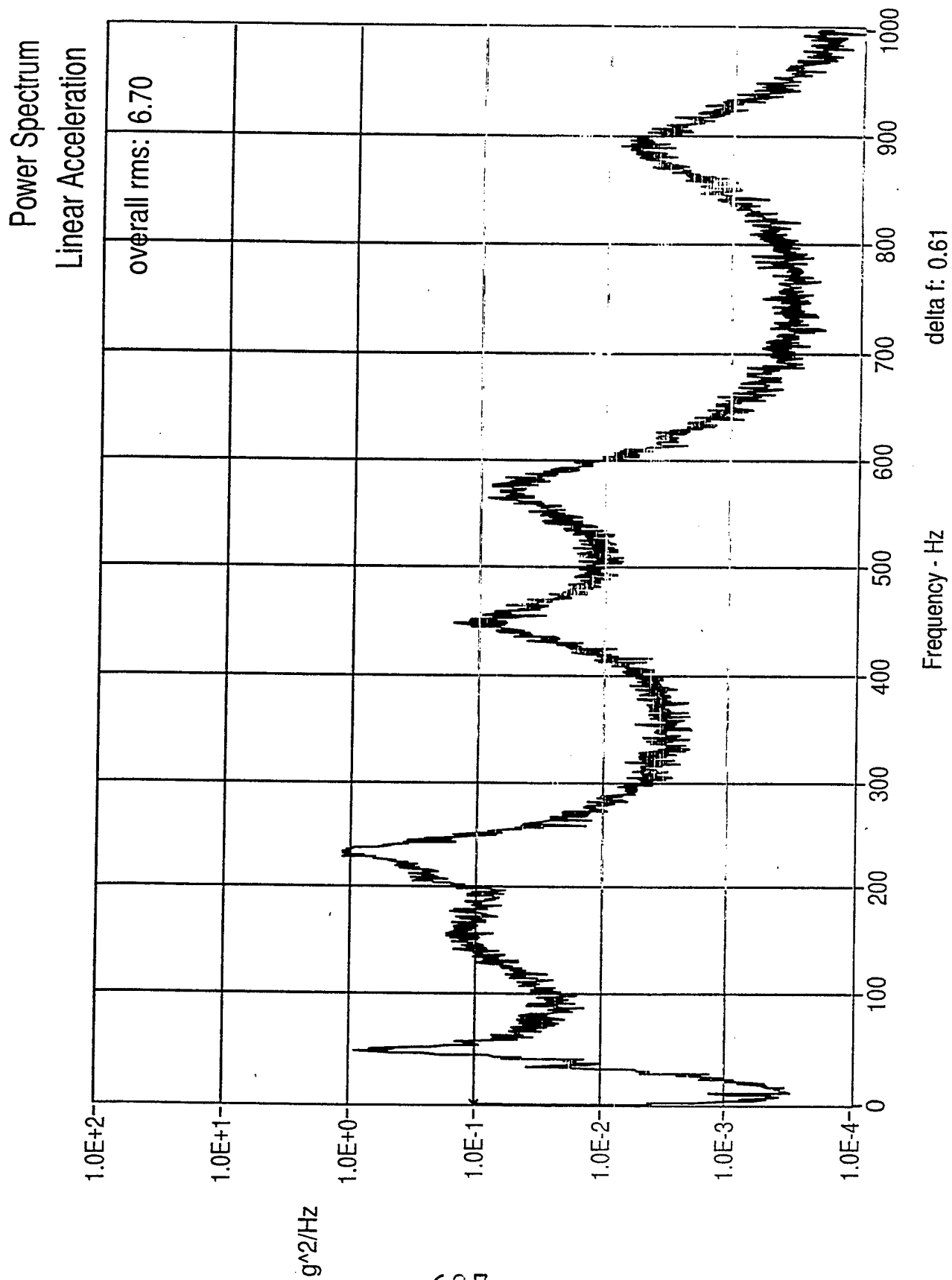


F-15 TPN_3243: q=30 alpha=8 beta=0 bp=0

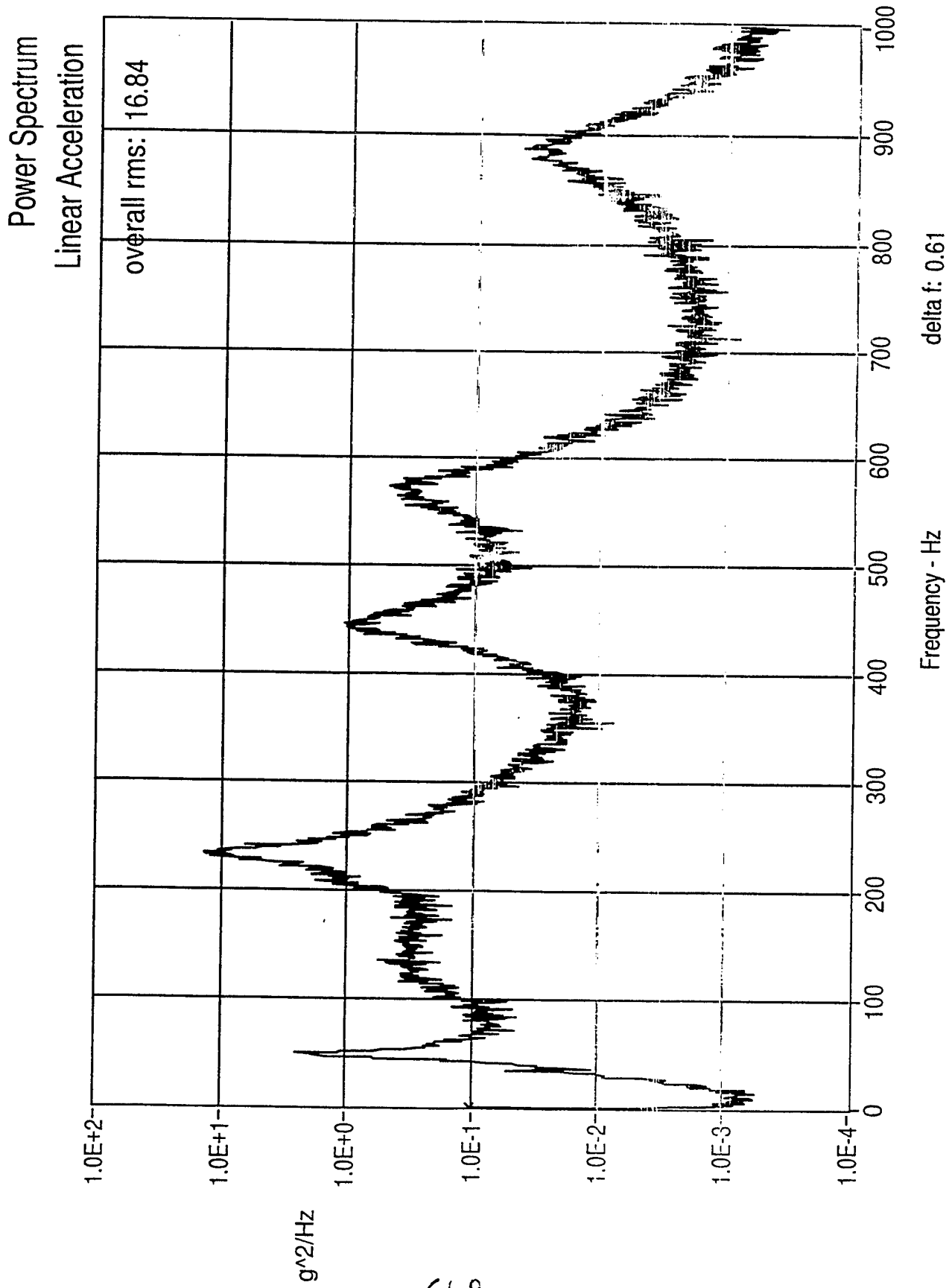
Power Spectrum
Linear Acceleration



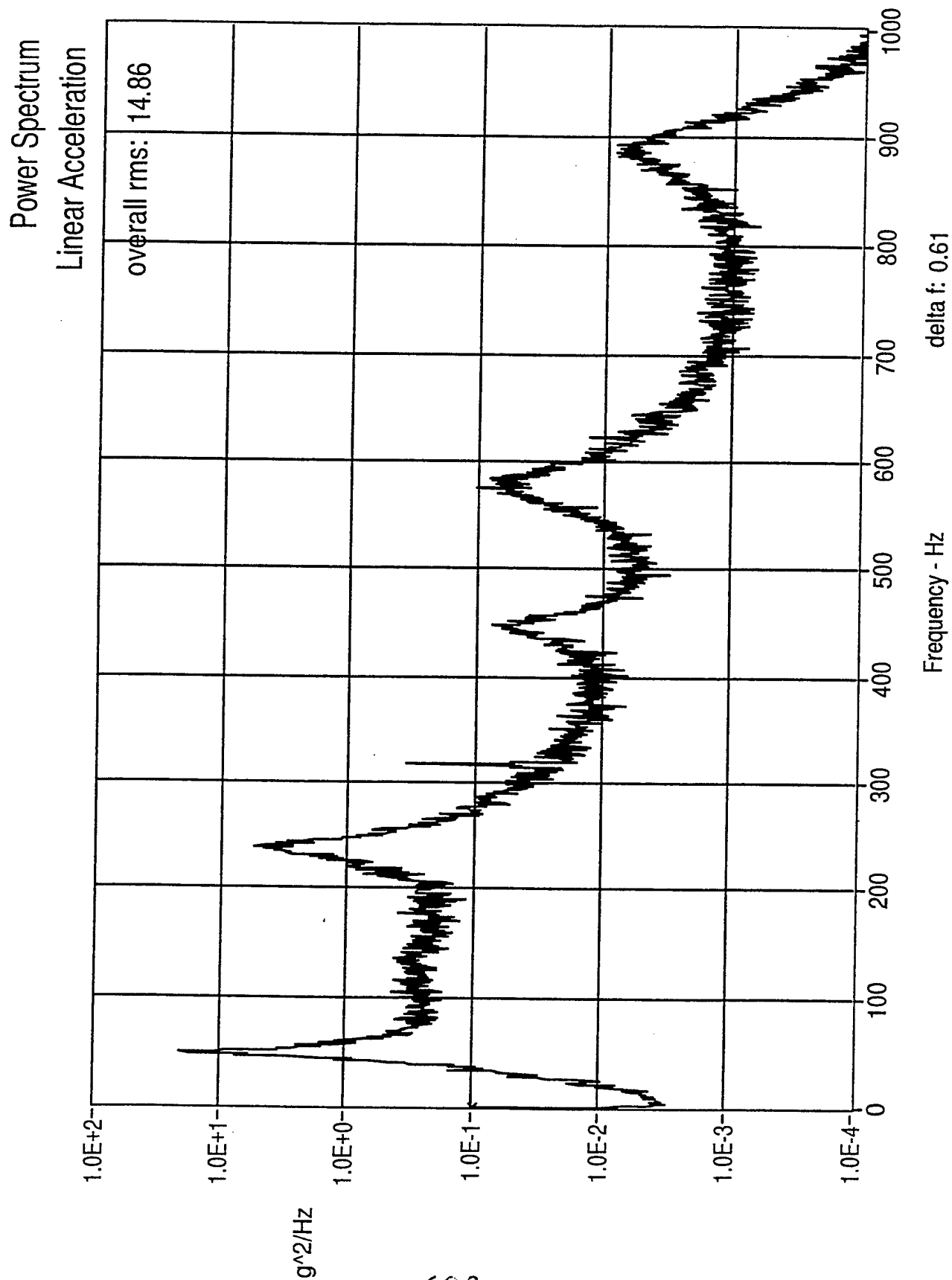
F-15 TPN_3249; q=30 alpha=20 beta=0 bp=0



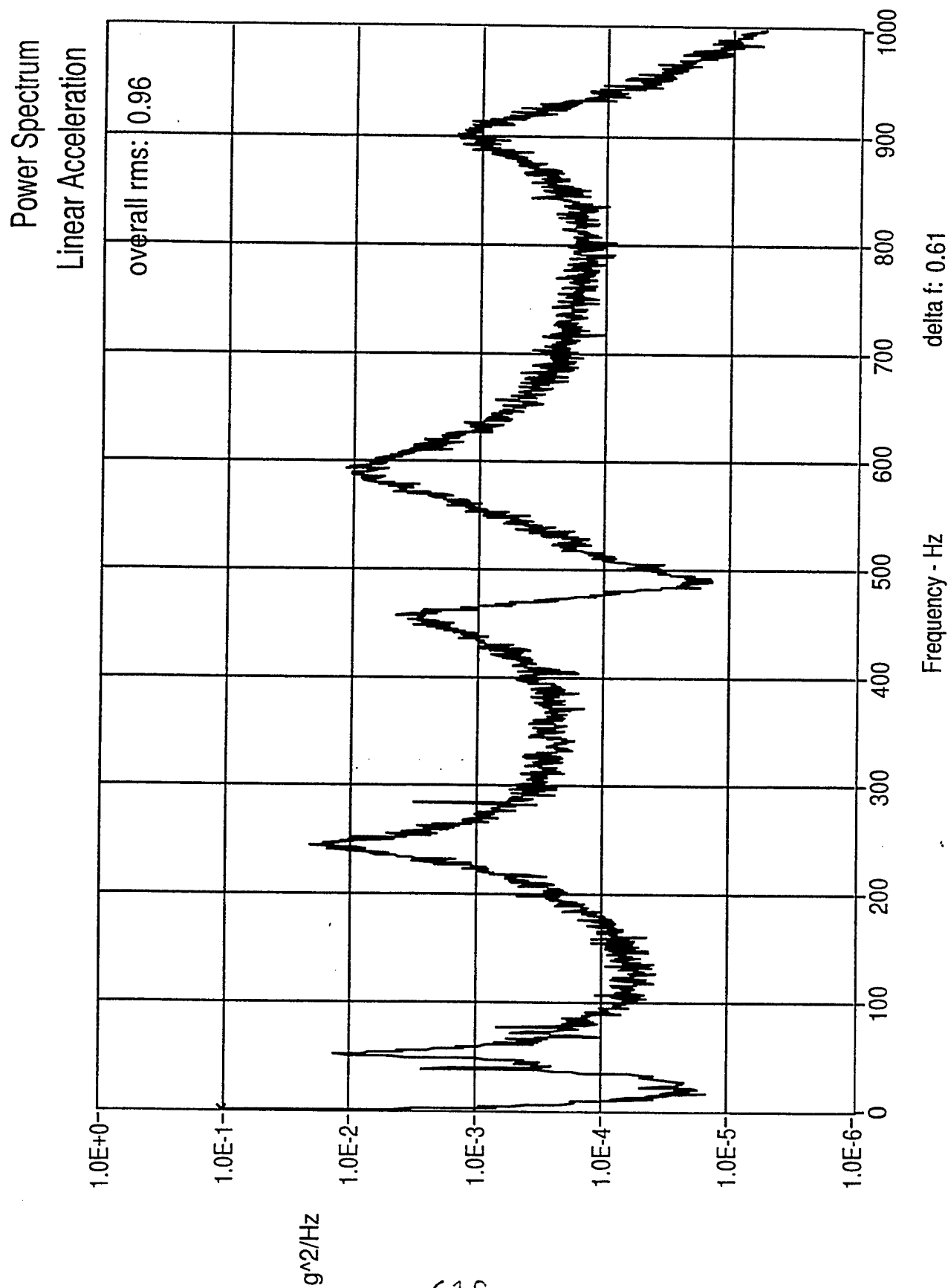
F-15 TPN_3251: q=30 alpha=24 beta=0 bp=0



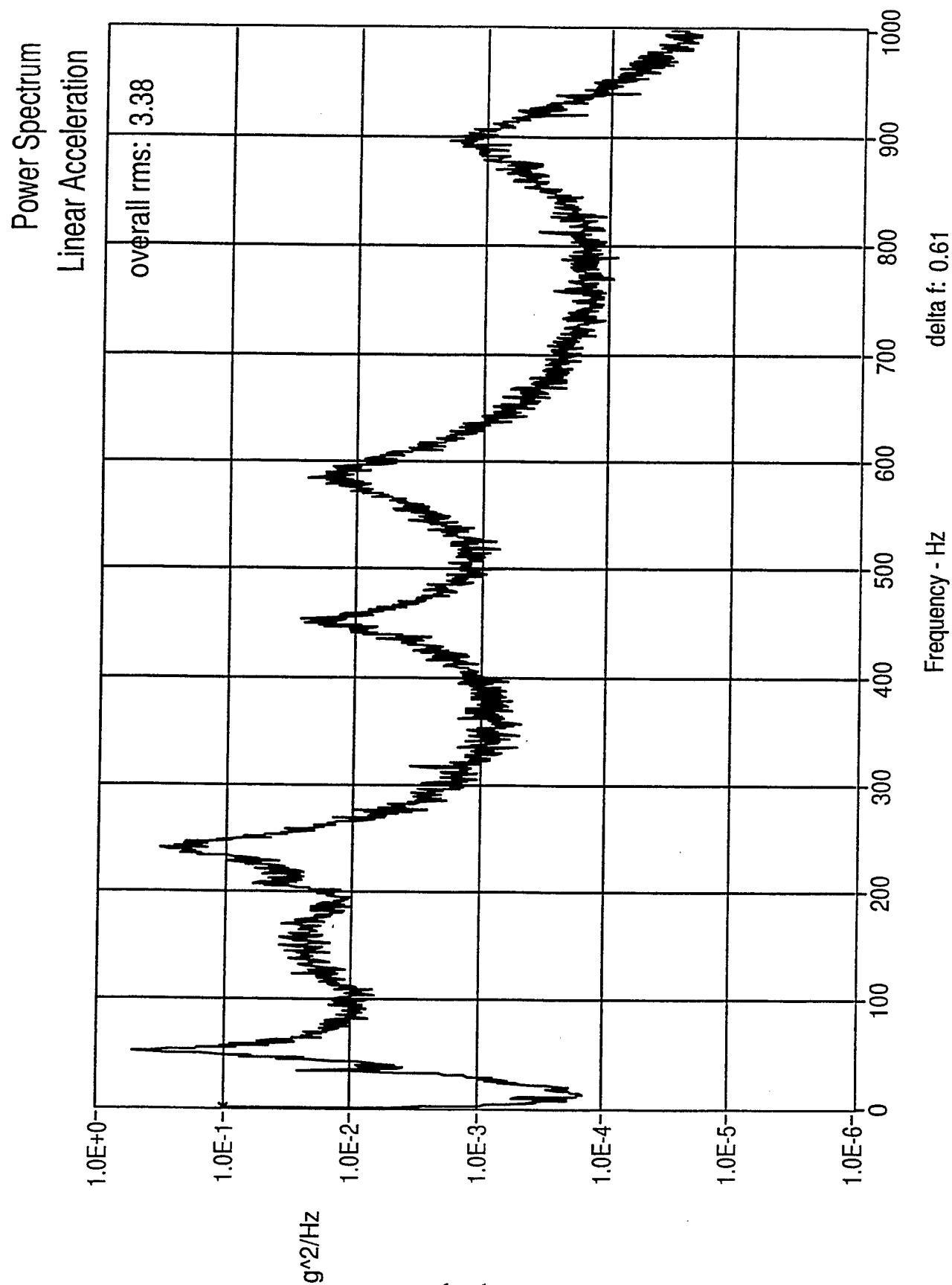
F-15 TPN_3253: q=30 alpha=32 beta=0 bp=0



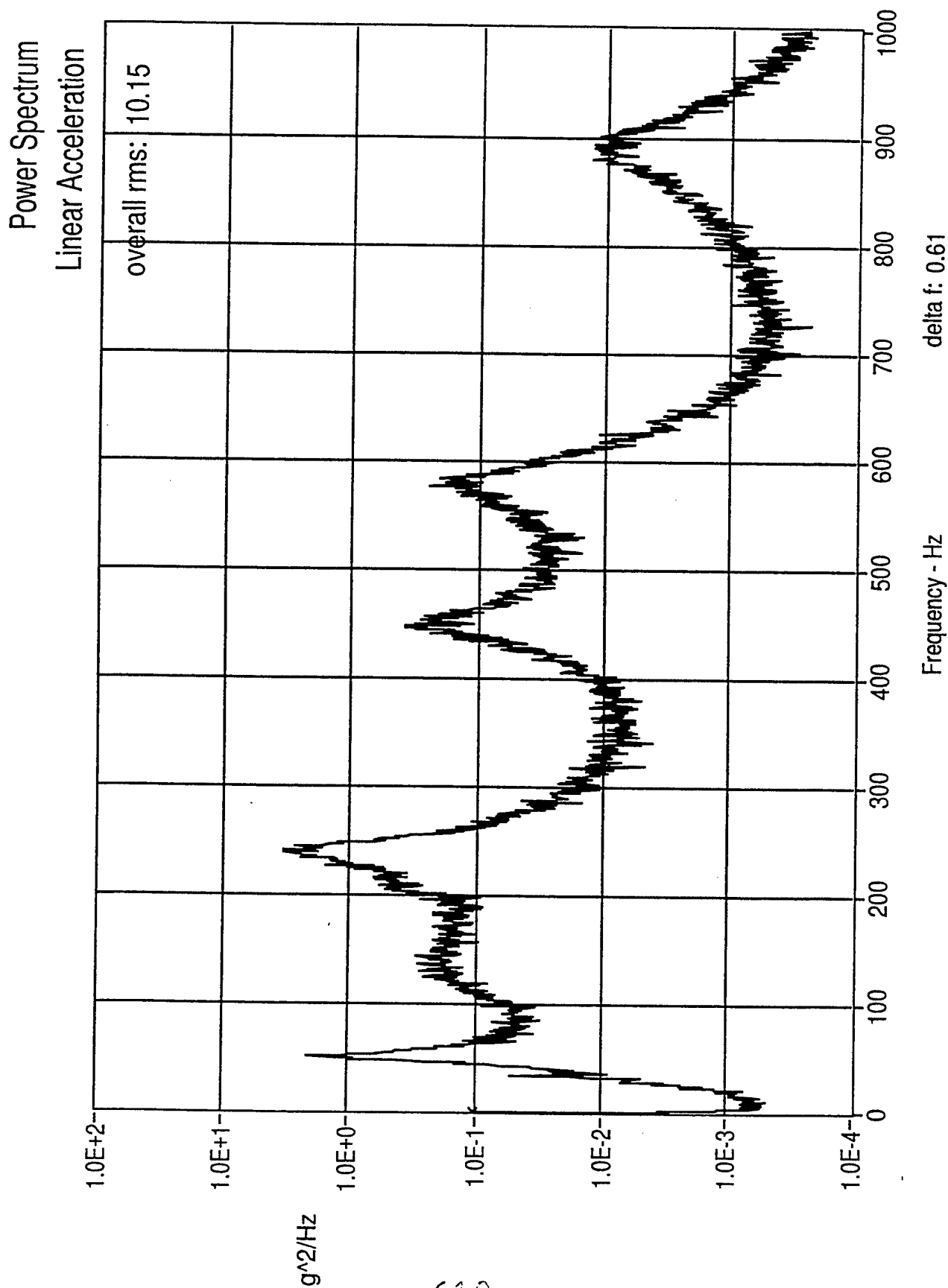
F-15 TPN_3261: q=30 alpha=8 beta=4 bp=0



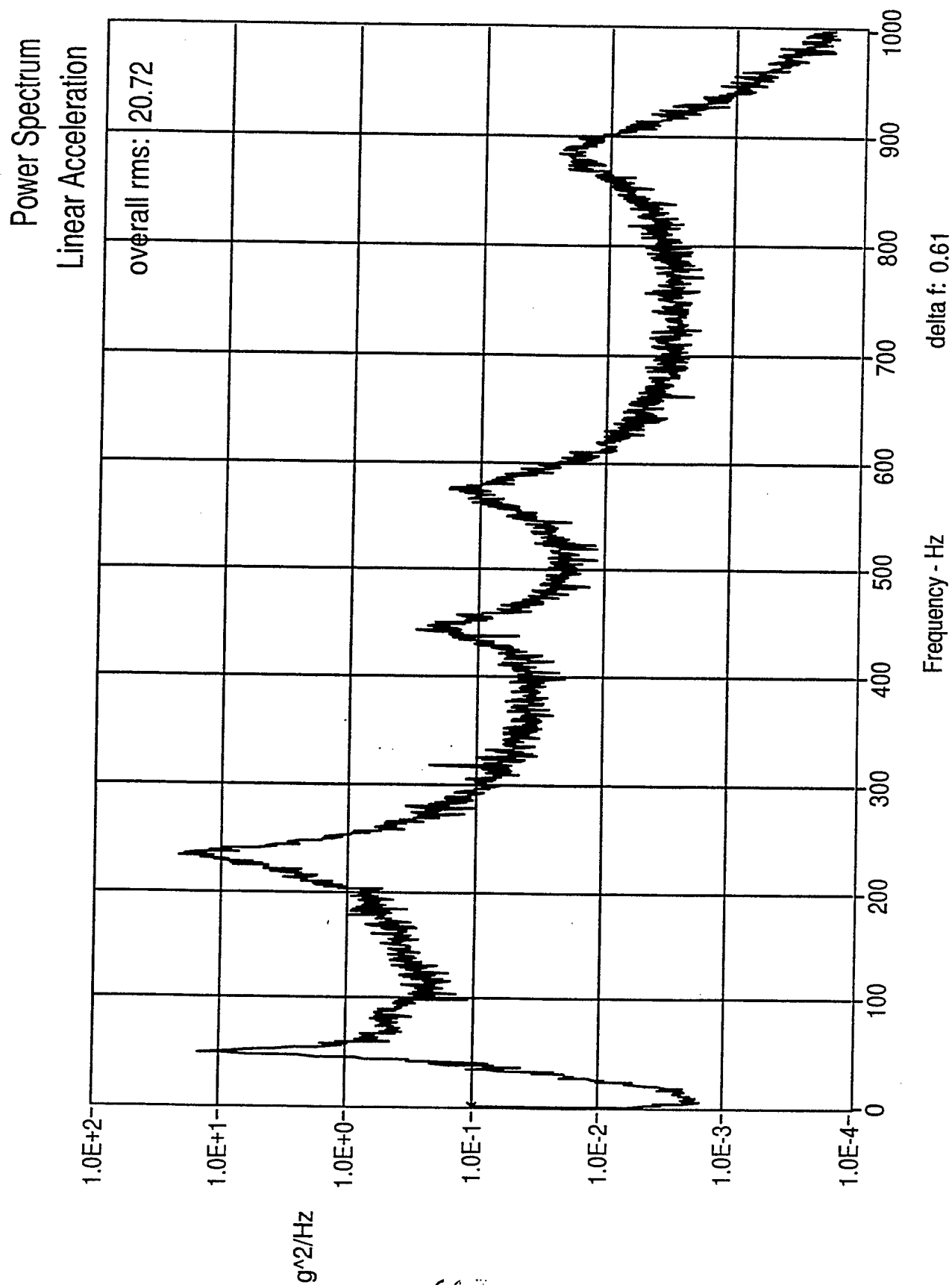
F-15 TPN_3267: q=30 alpha=20 beta=4 bp=0



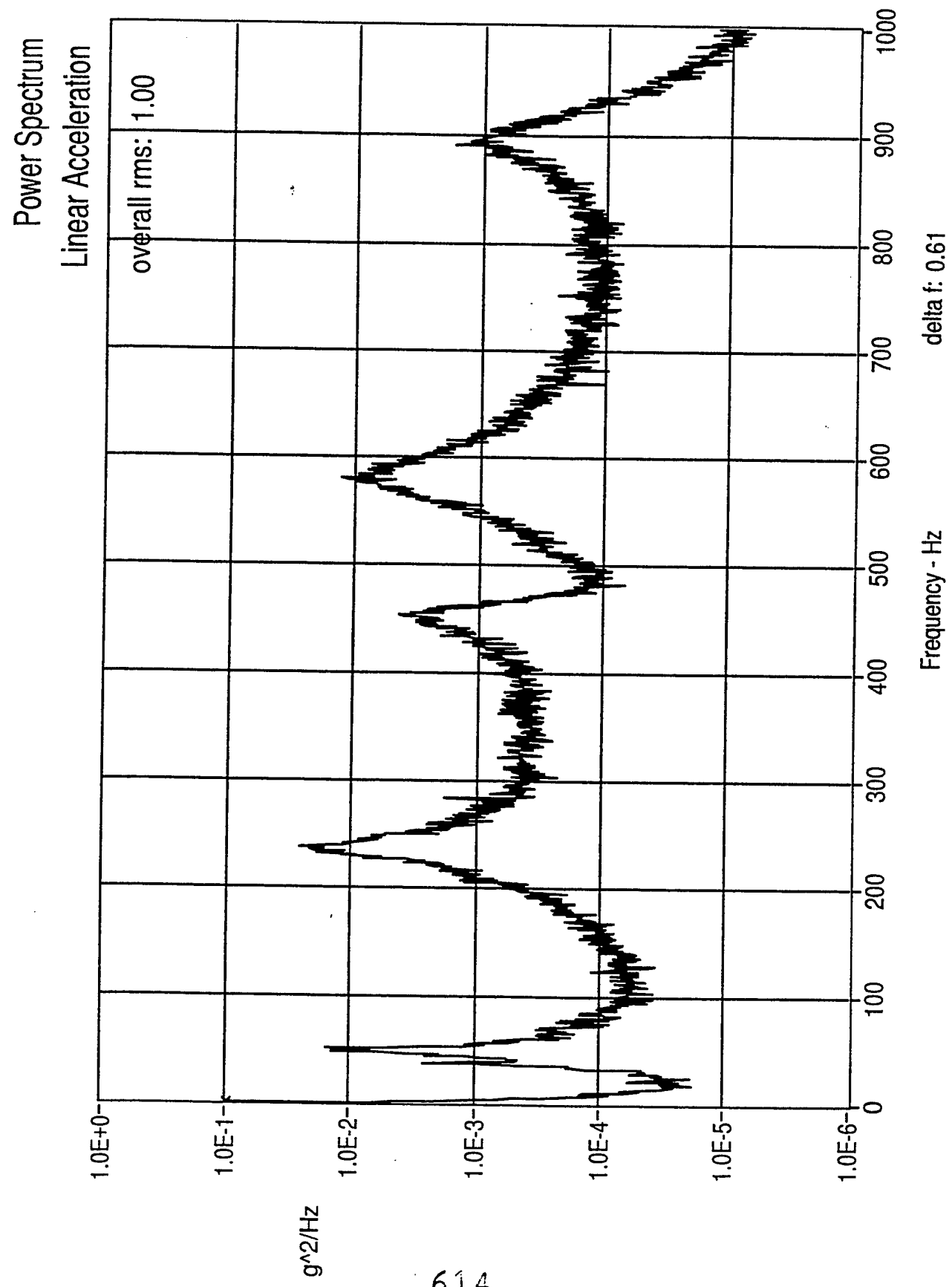
F-15 TPN_3269: q=30 alpha=24 beta=4 bp=0



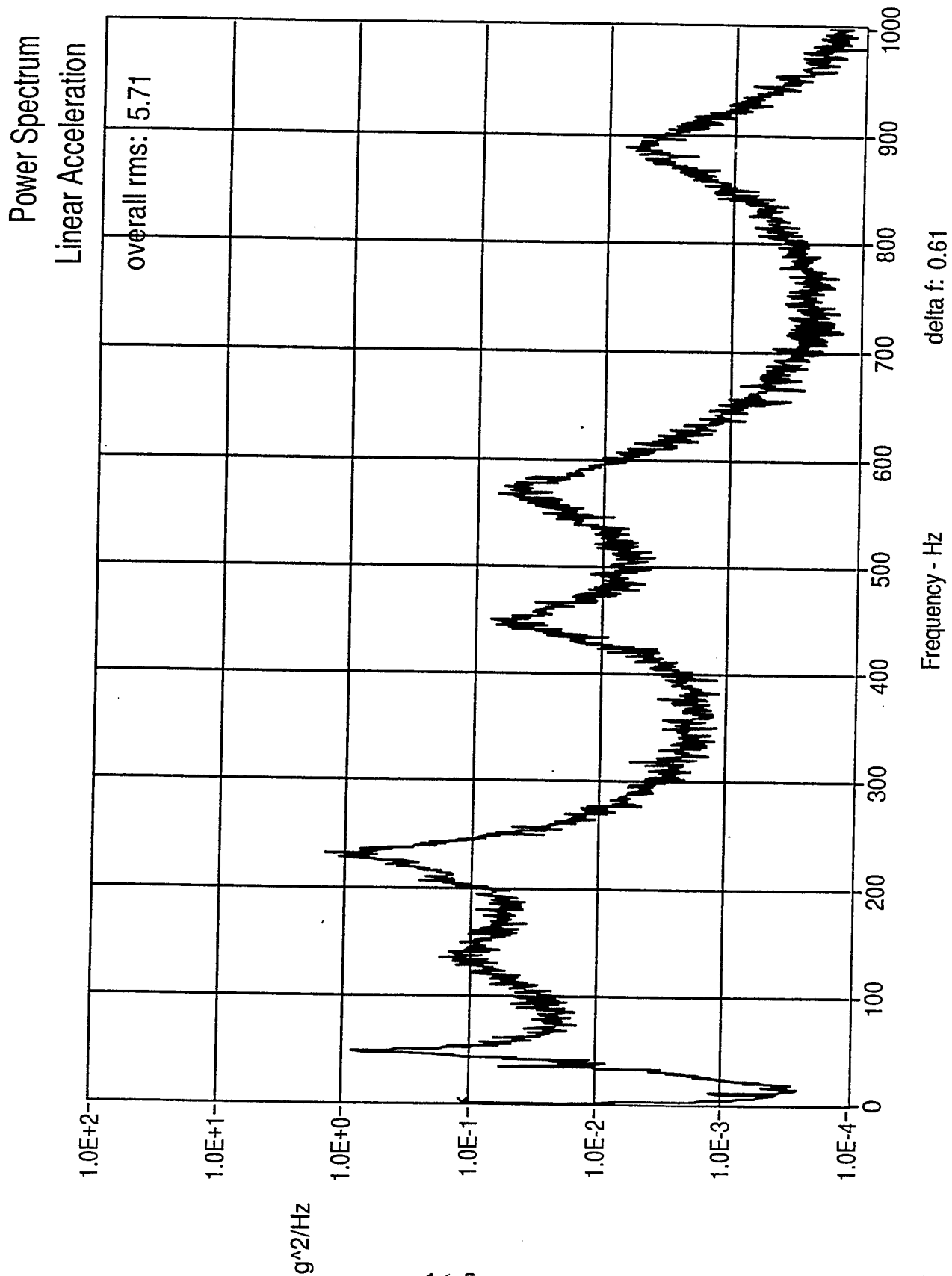
F-15 TPN_3271: q=30 alpha=32 beta=4 bp=0



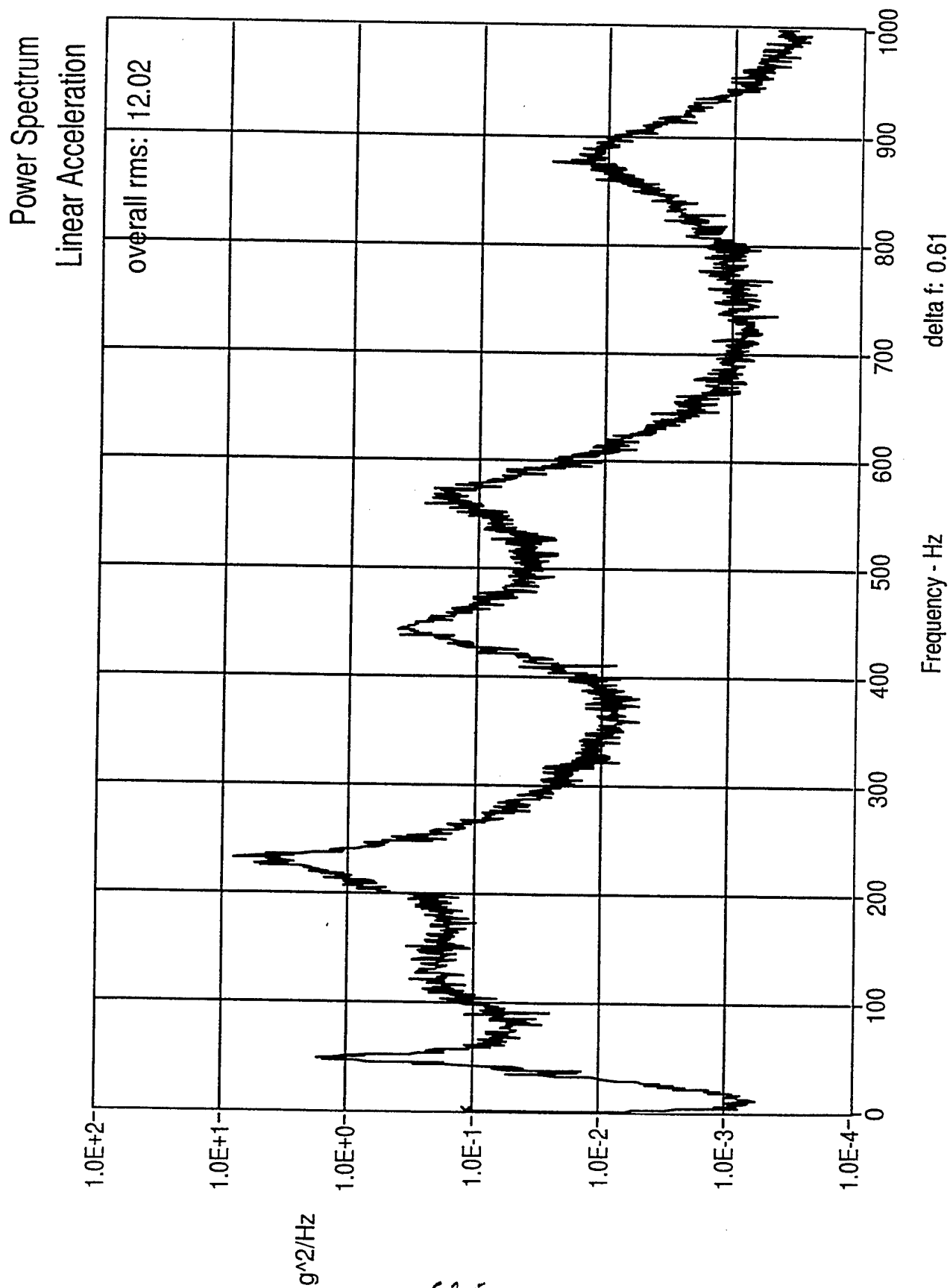
F-15 TPN_3297: q=30 alpha=8 beta=0 bp=45



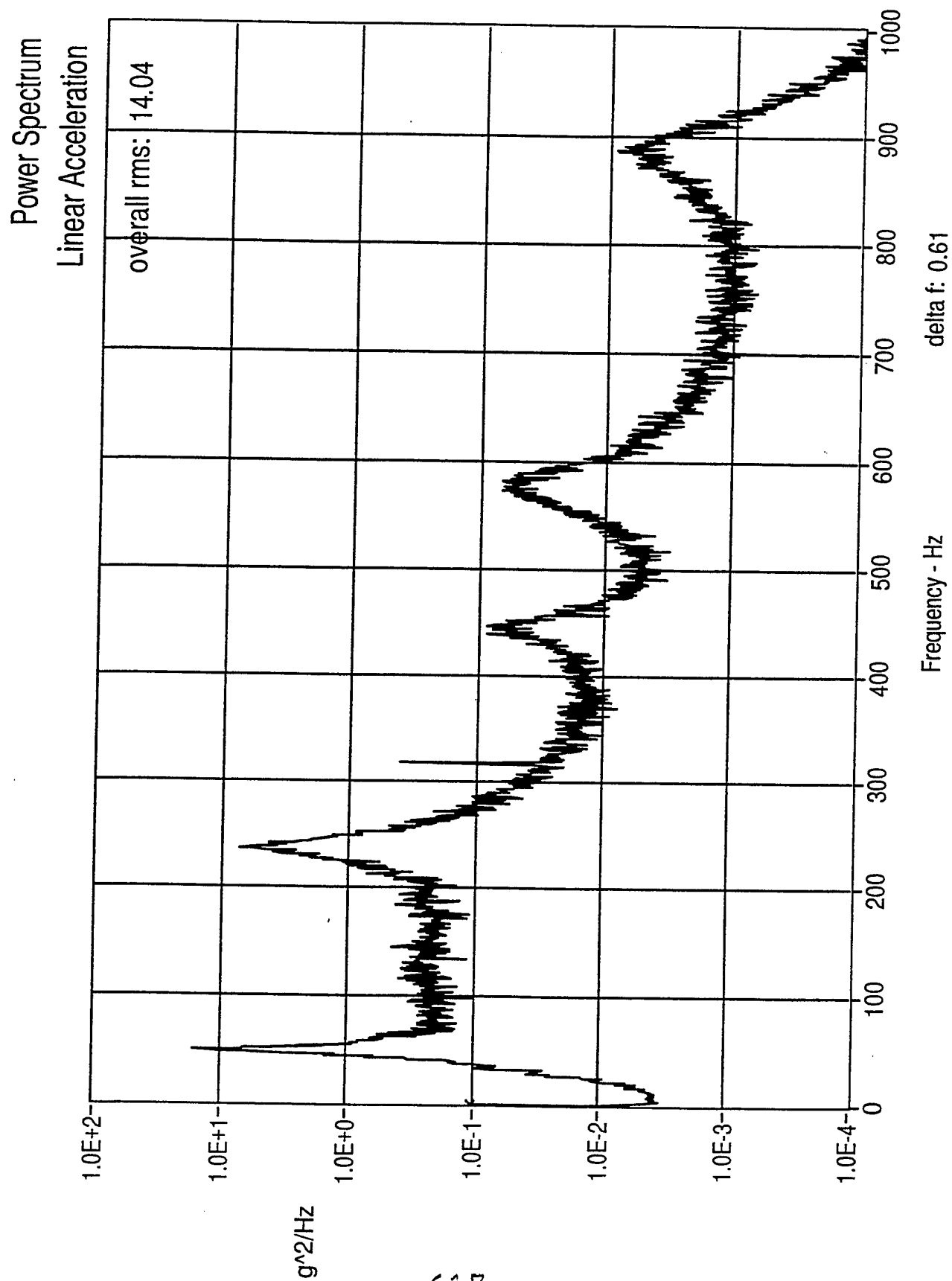
F-15 TPN_3303: q=30 alpha=20 beta=0 bp=45



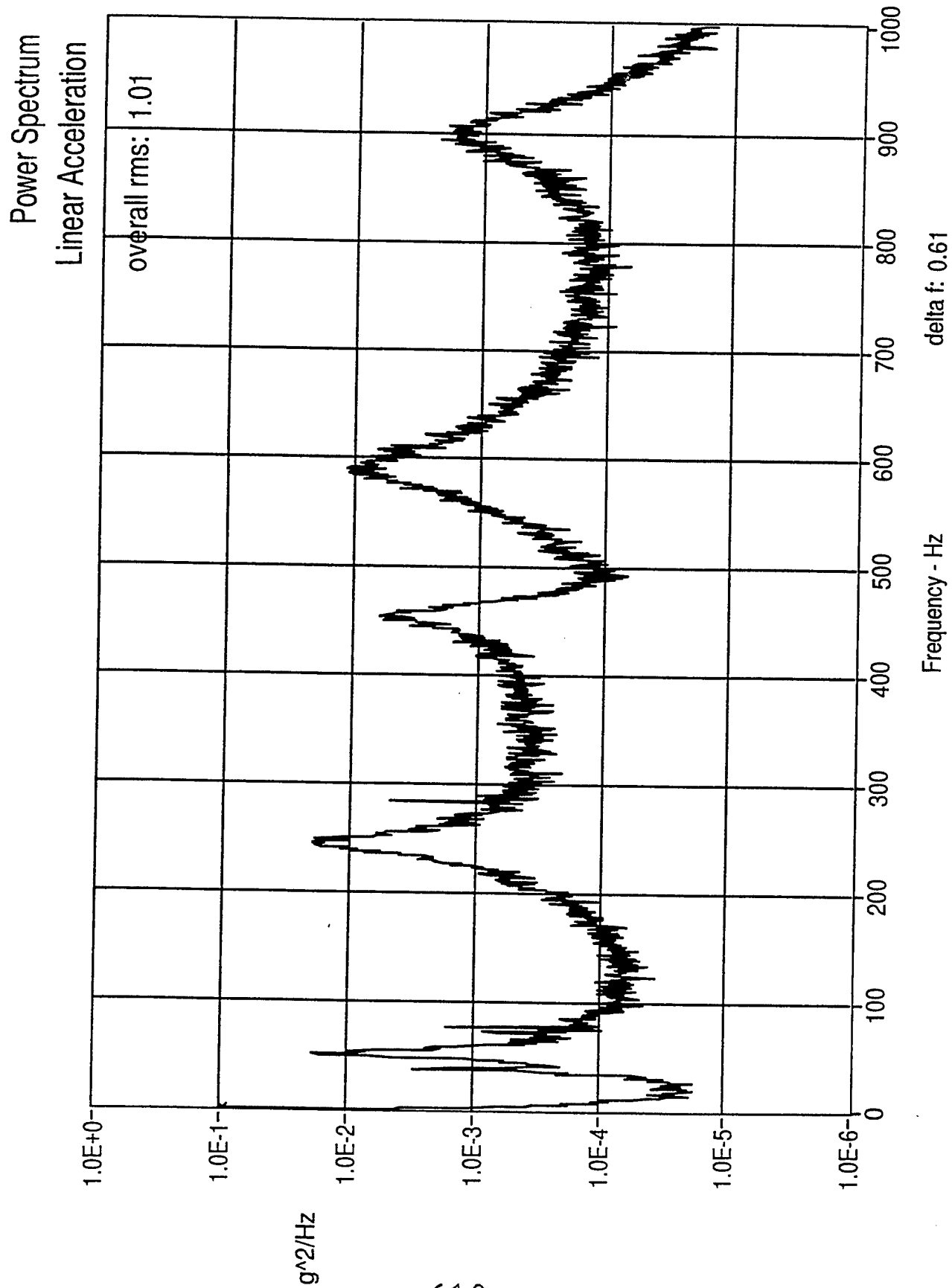
F-15 TPN_3305: q=30 alpha=24 beta=0 bp=45



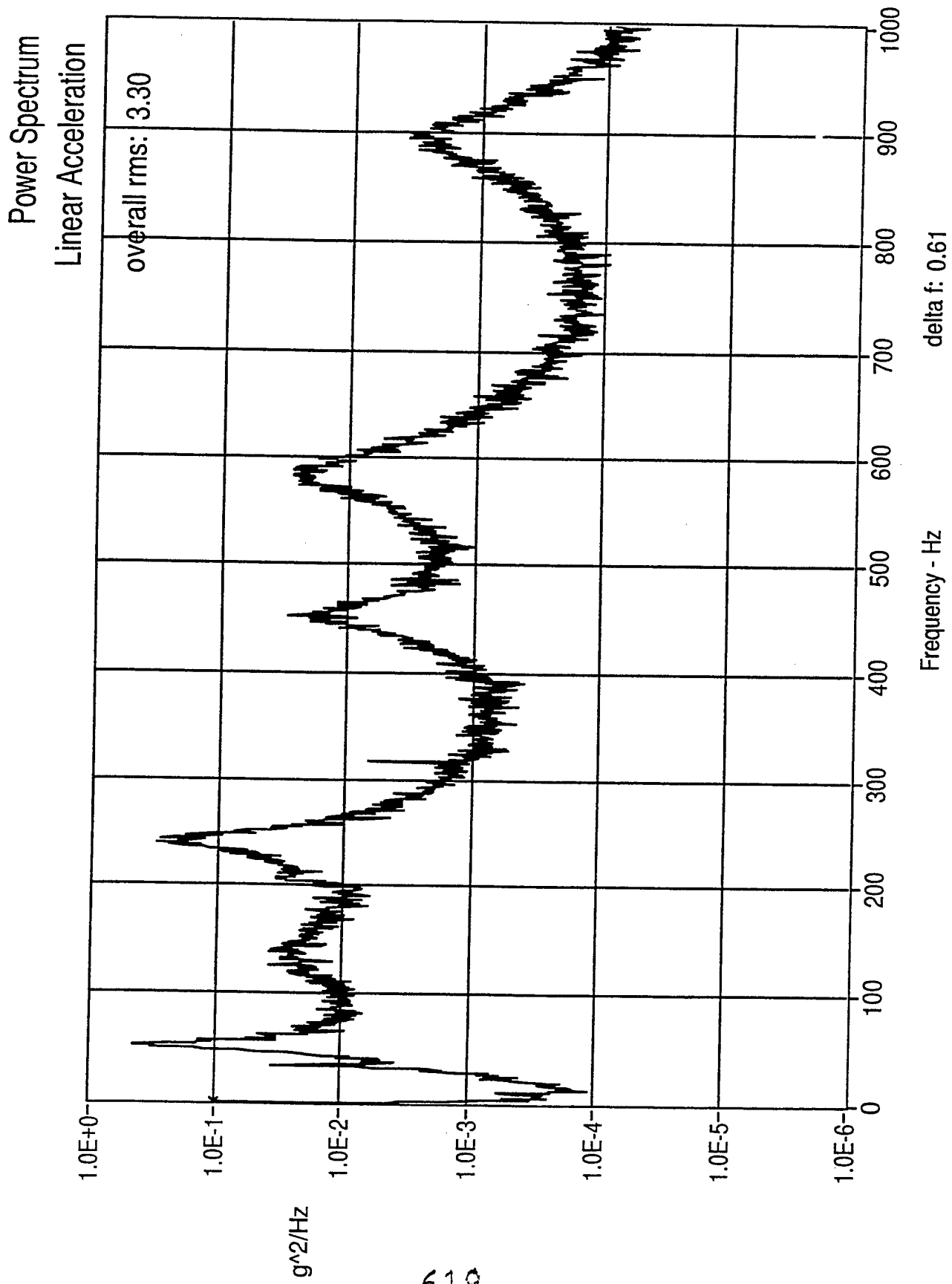
F-15 TPN_3307: q=30 alpha=32 beta=0 bp=45



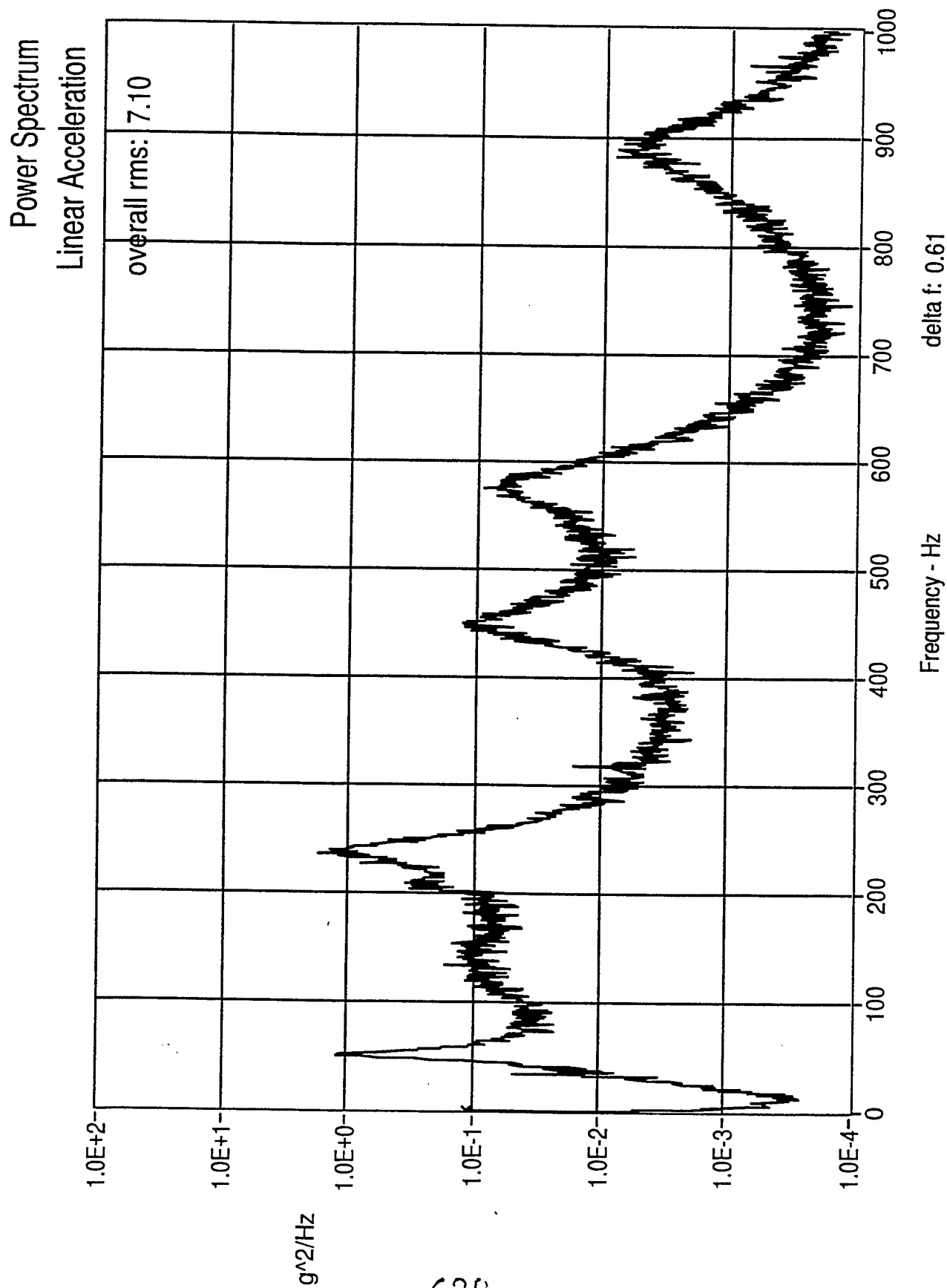
F-15 TPN_3315: q=30 alpha=8 beta=4 bp=45



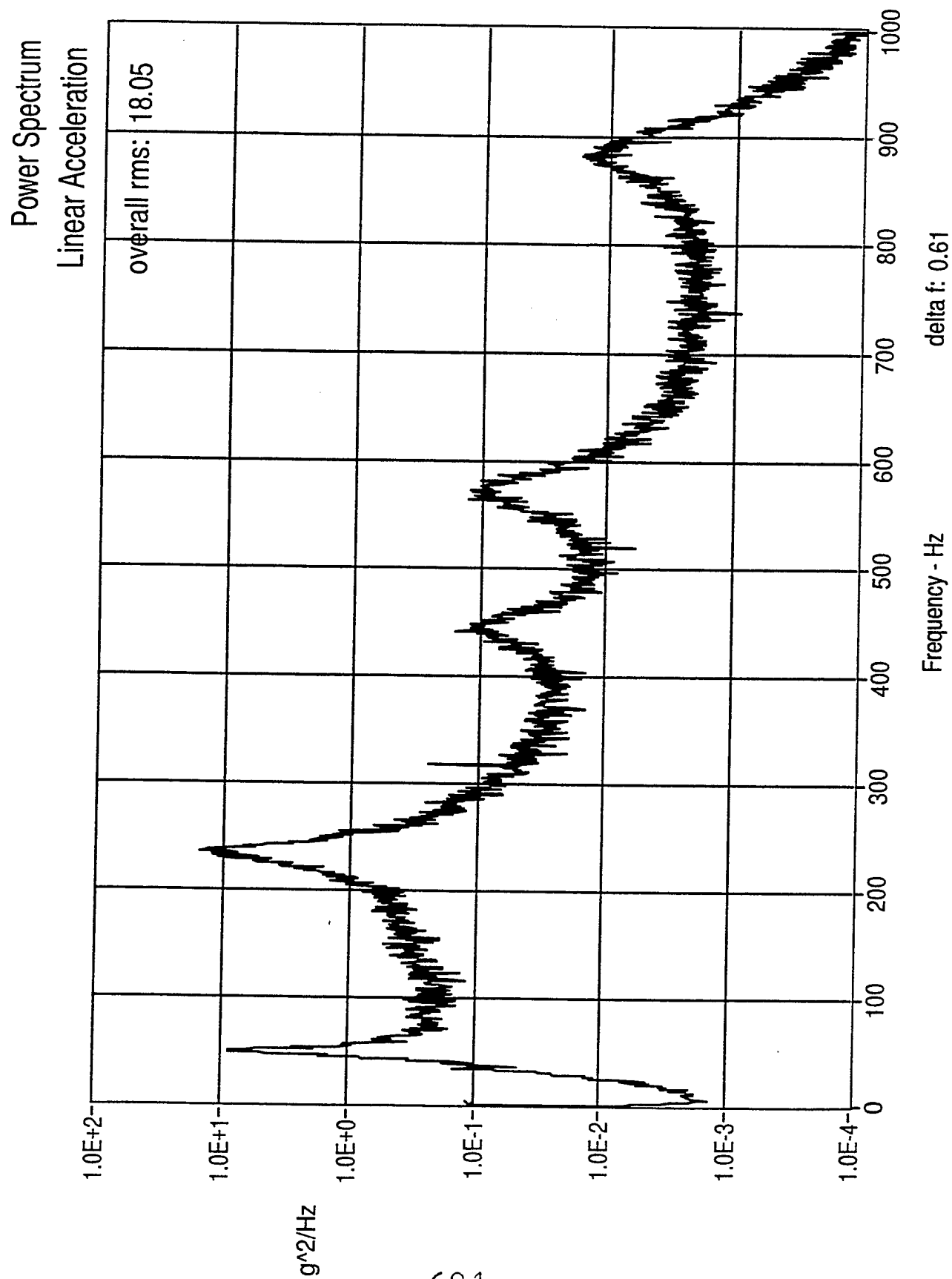
F-15 TPN_3321: q=30 alpha=20 beta=4 bp=45



F-15 TPN_3323: q=30 alpha=24 beta=4 bp=45



F-15 TPN_3325: q=30 alpha=32 beta=4 bp=45



**FLEXIBLE TAIL RESPONSE
ACCELERATION DATA**

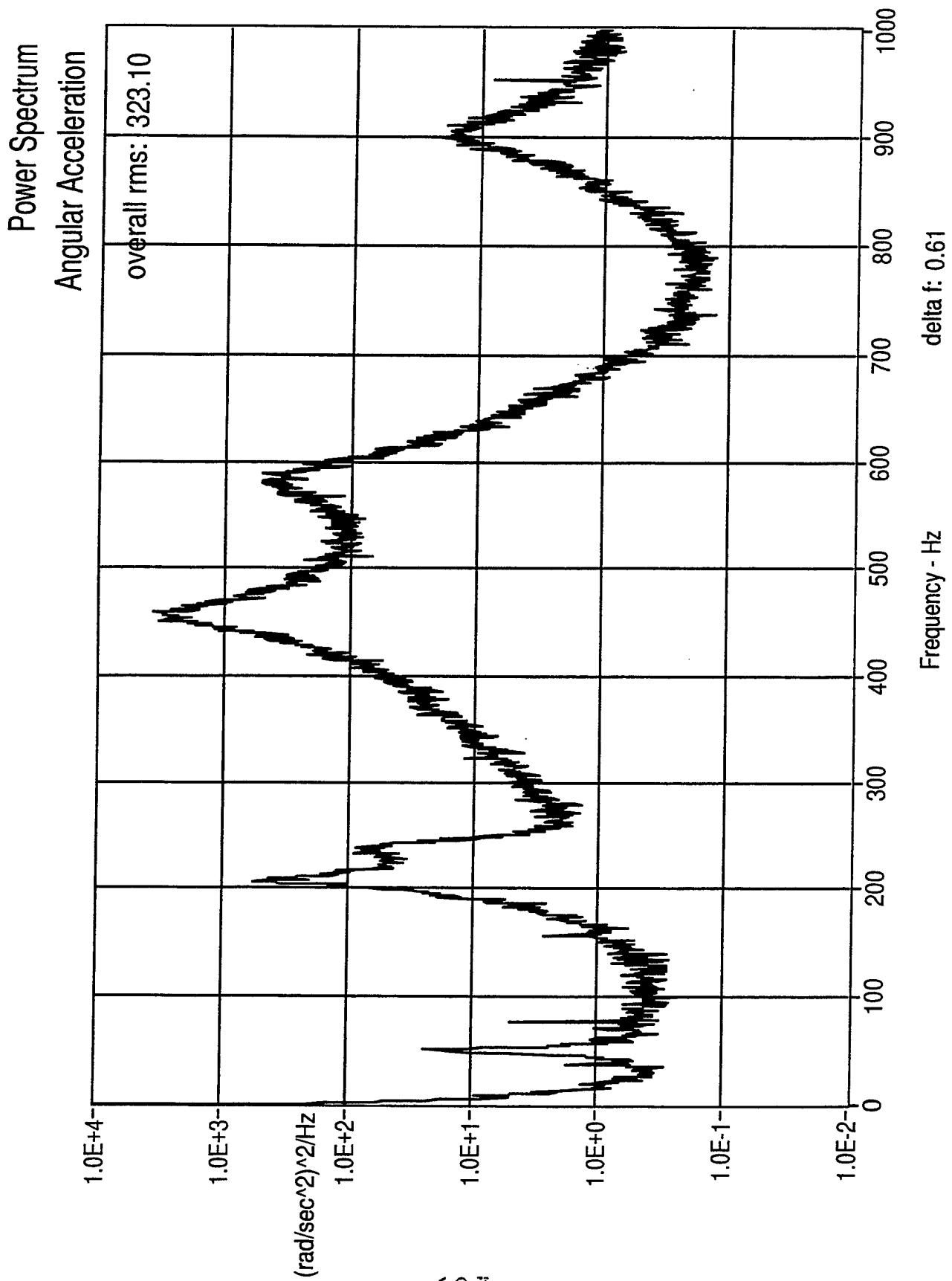
Q= 30 PSF

PSD GRAPHS

**4.1.2.3 TORSIONAL (ANGULAR AT EA) beta= 0, +4, -4 Deg, WBP = 0, 45, psi
ALPHAS = 8, 20, 24, 32 DEG**

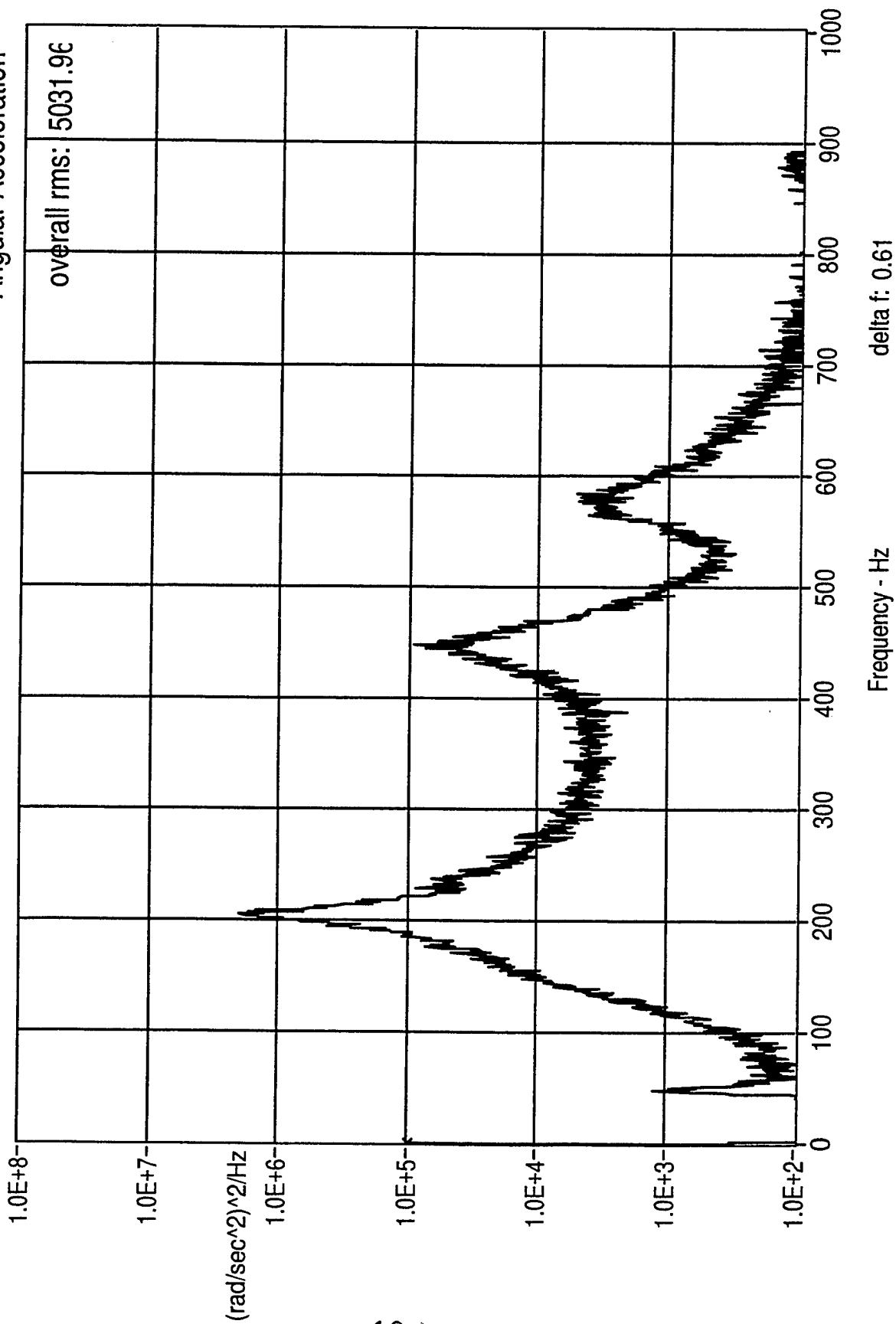
data is further blocked blocked off by blowing pressures, with beta variation within.

F-15 TPN_3243: q=30 alpha=δ beta=0 bp=0

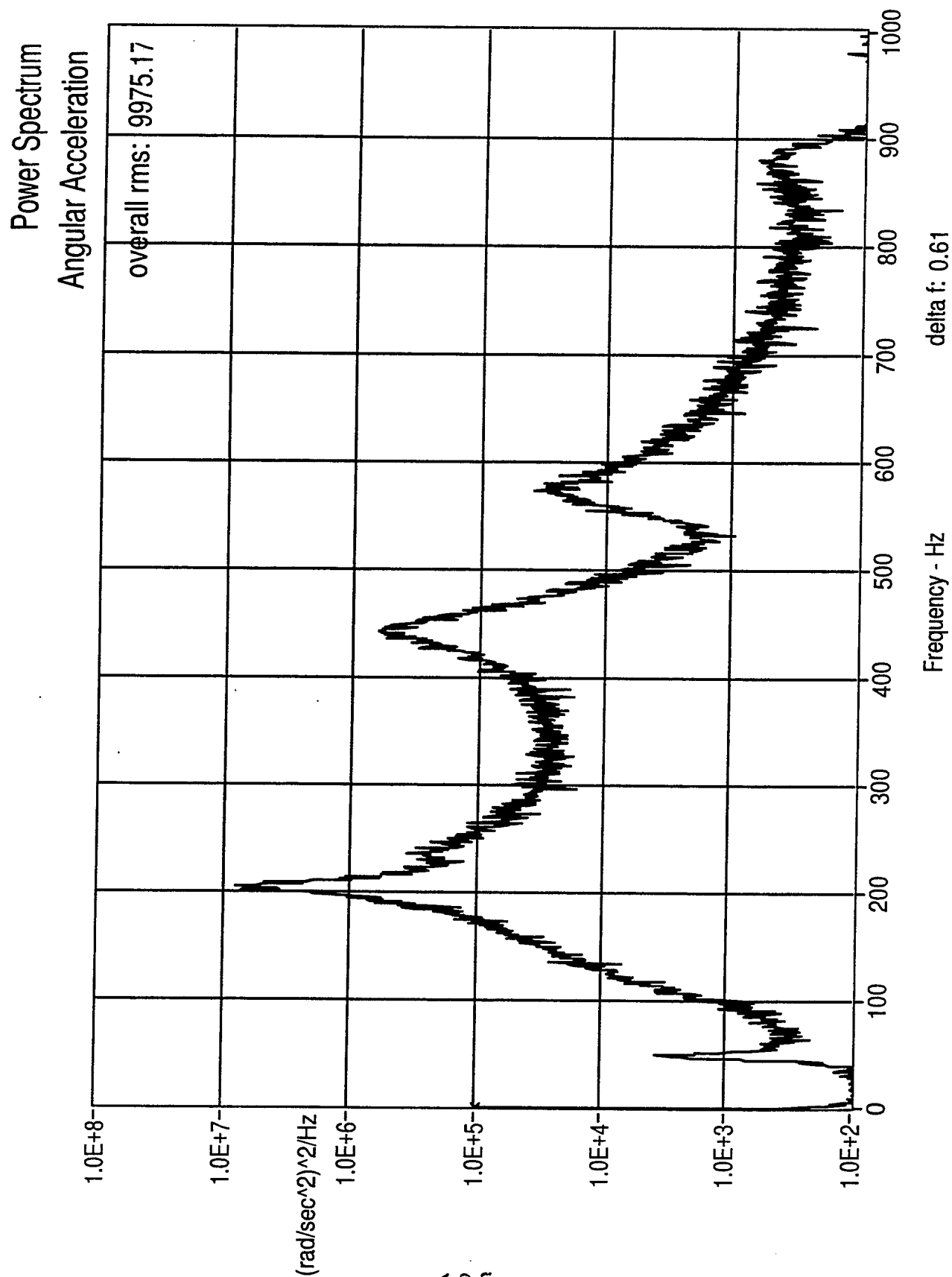


F-15 TPN_3249: q=30 alpha=20 beta=0 bp=0

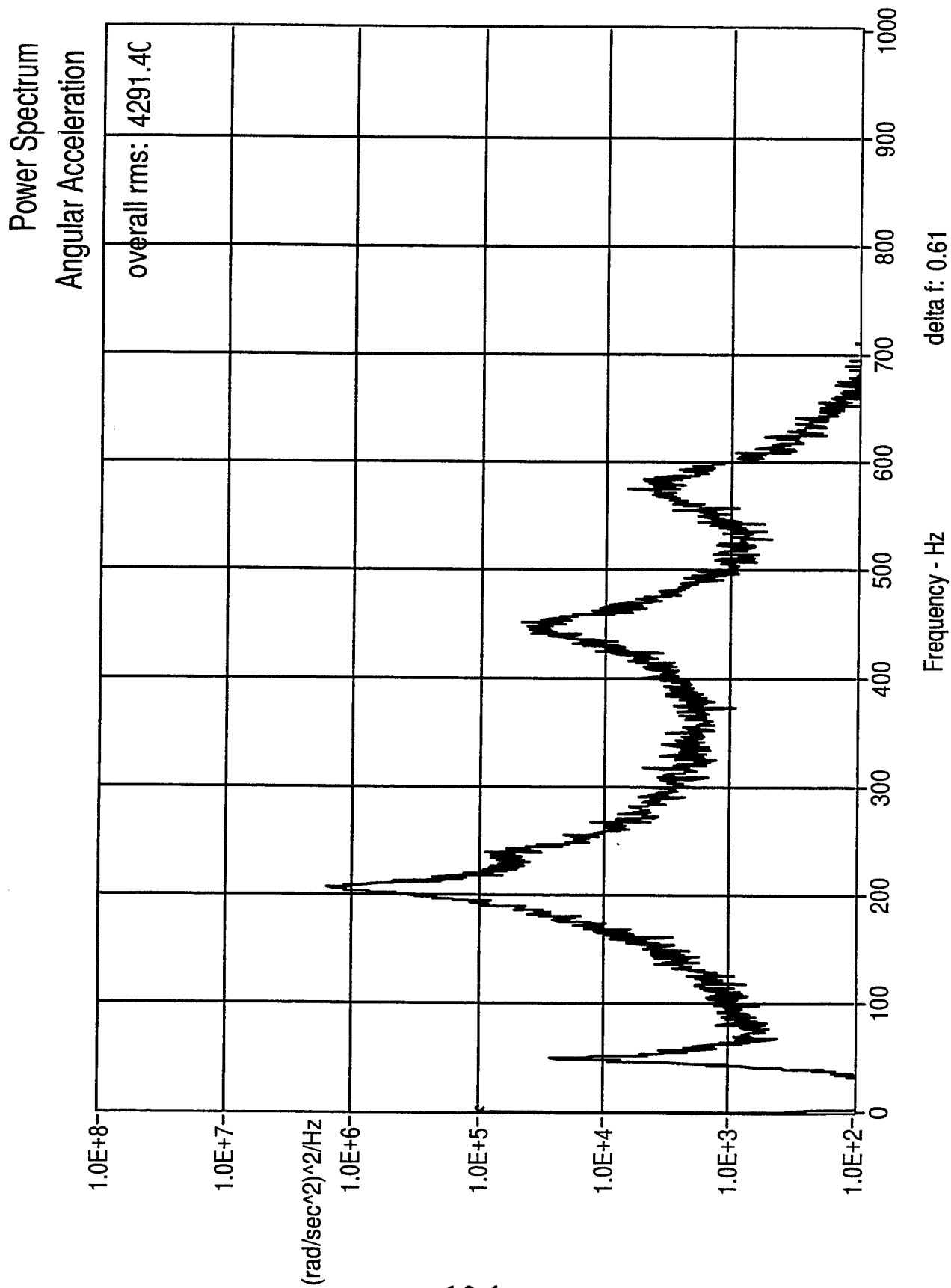
Power Spectrum
Angular Acceleration



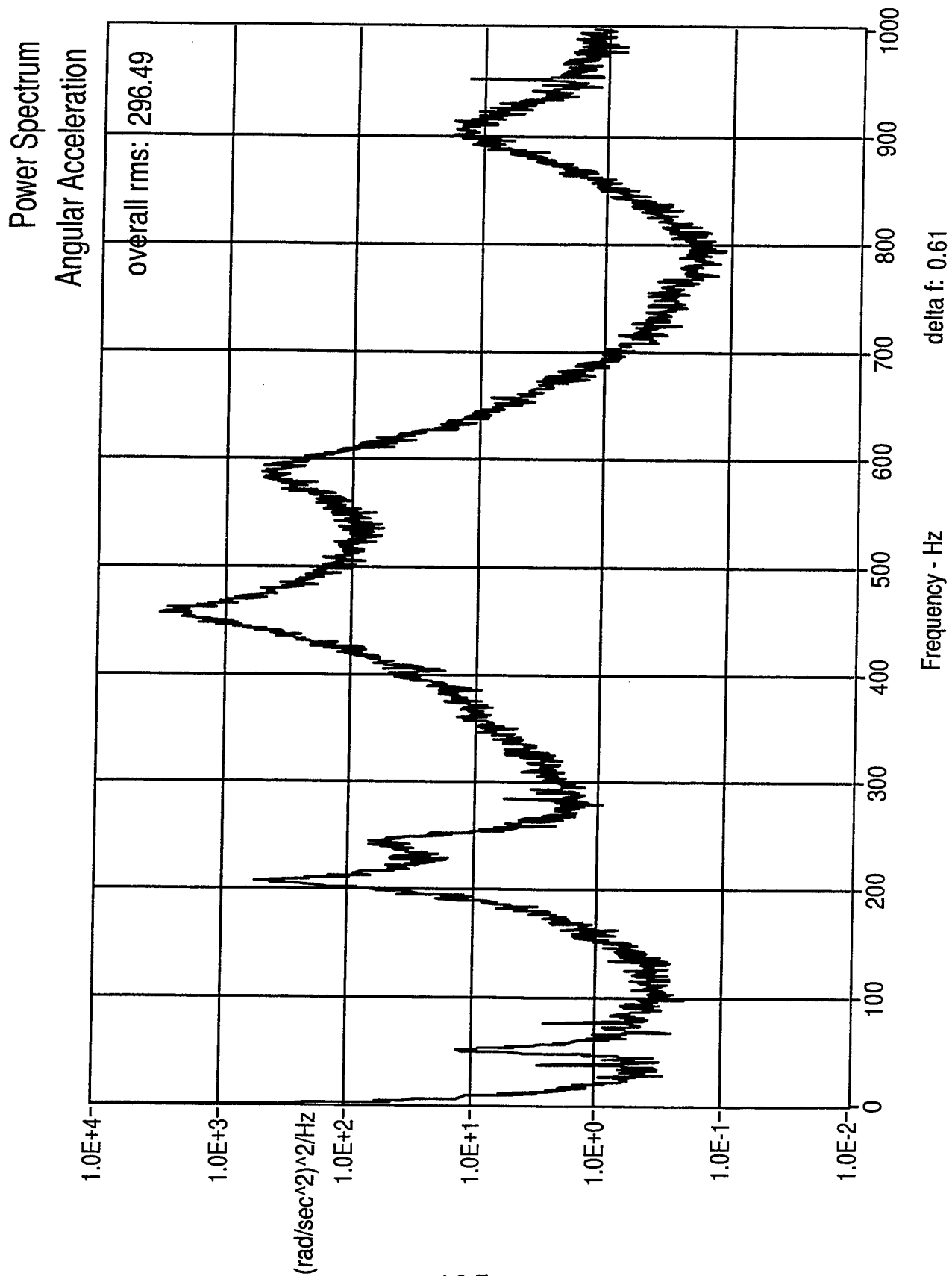
F-15 TPN_3251: q=30 alpha=24 beta=0 bp=0



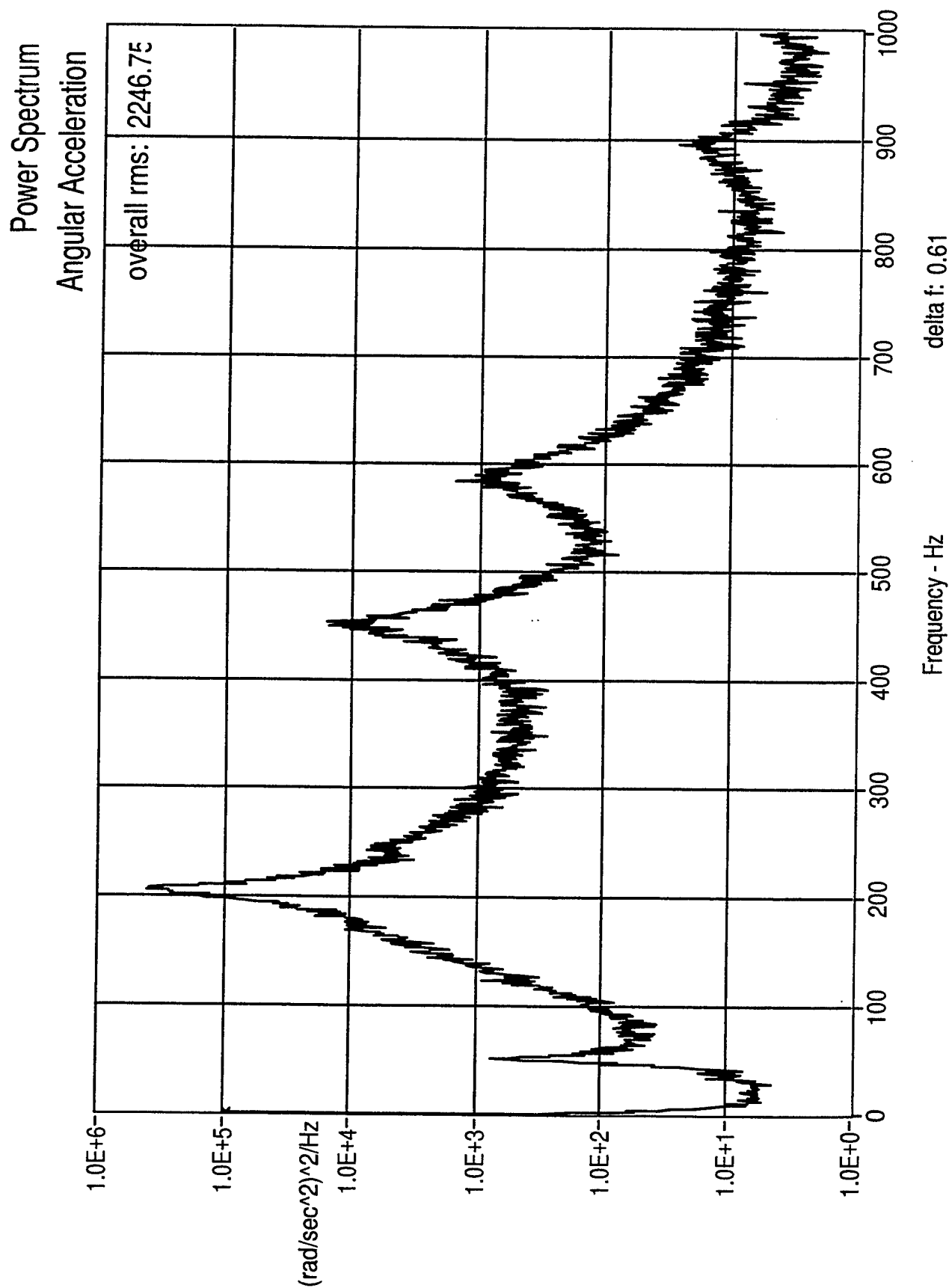
F-15 TPN_3253: q=30 alpha=32 beta=0 bp=0



F-15 TPN_3261: q=30 alpha=8 beta=4 bp=0

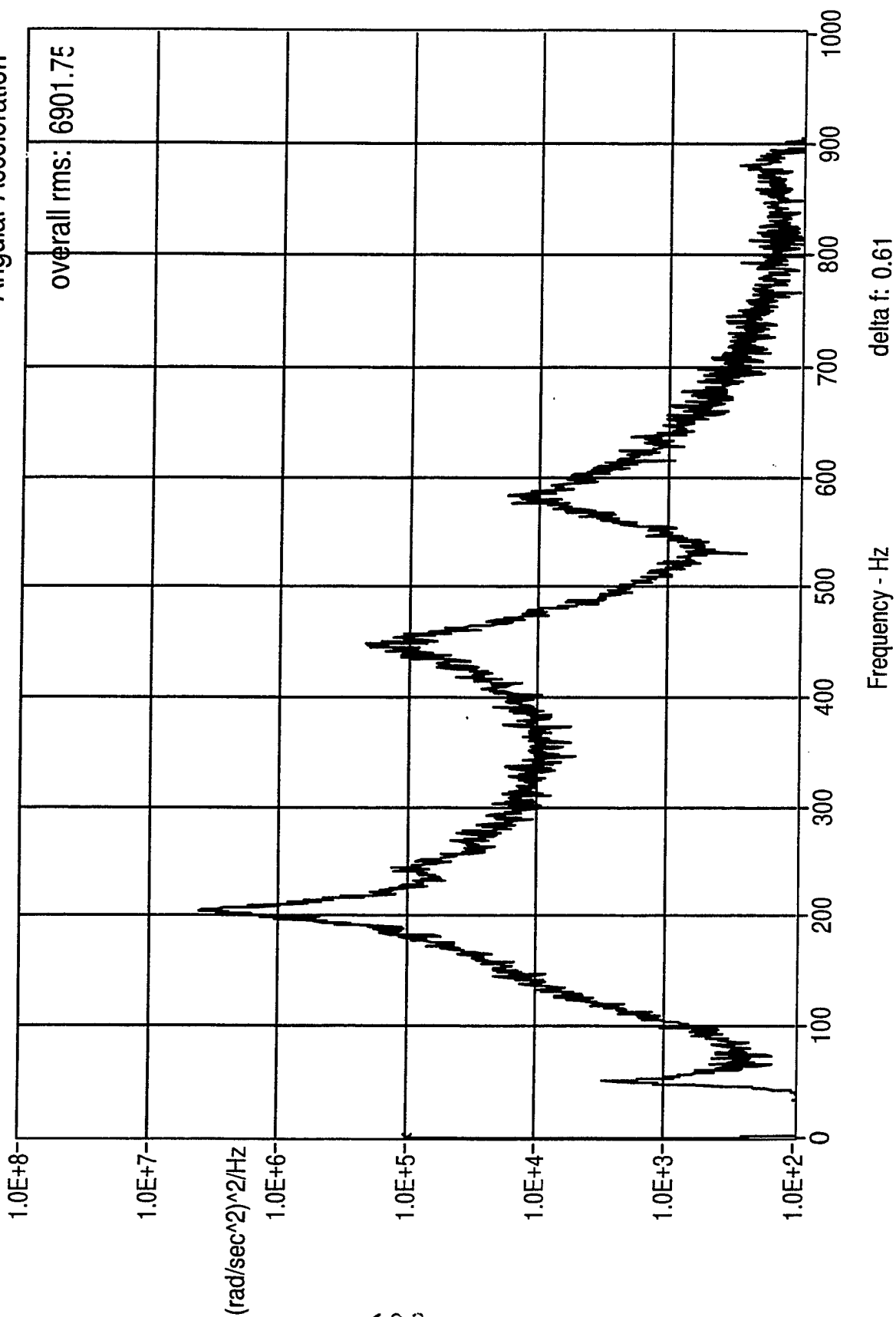


F-15 TPN_3267: q=30 alpha=20 beta=4 bp=0

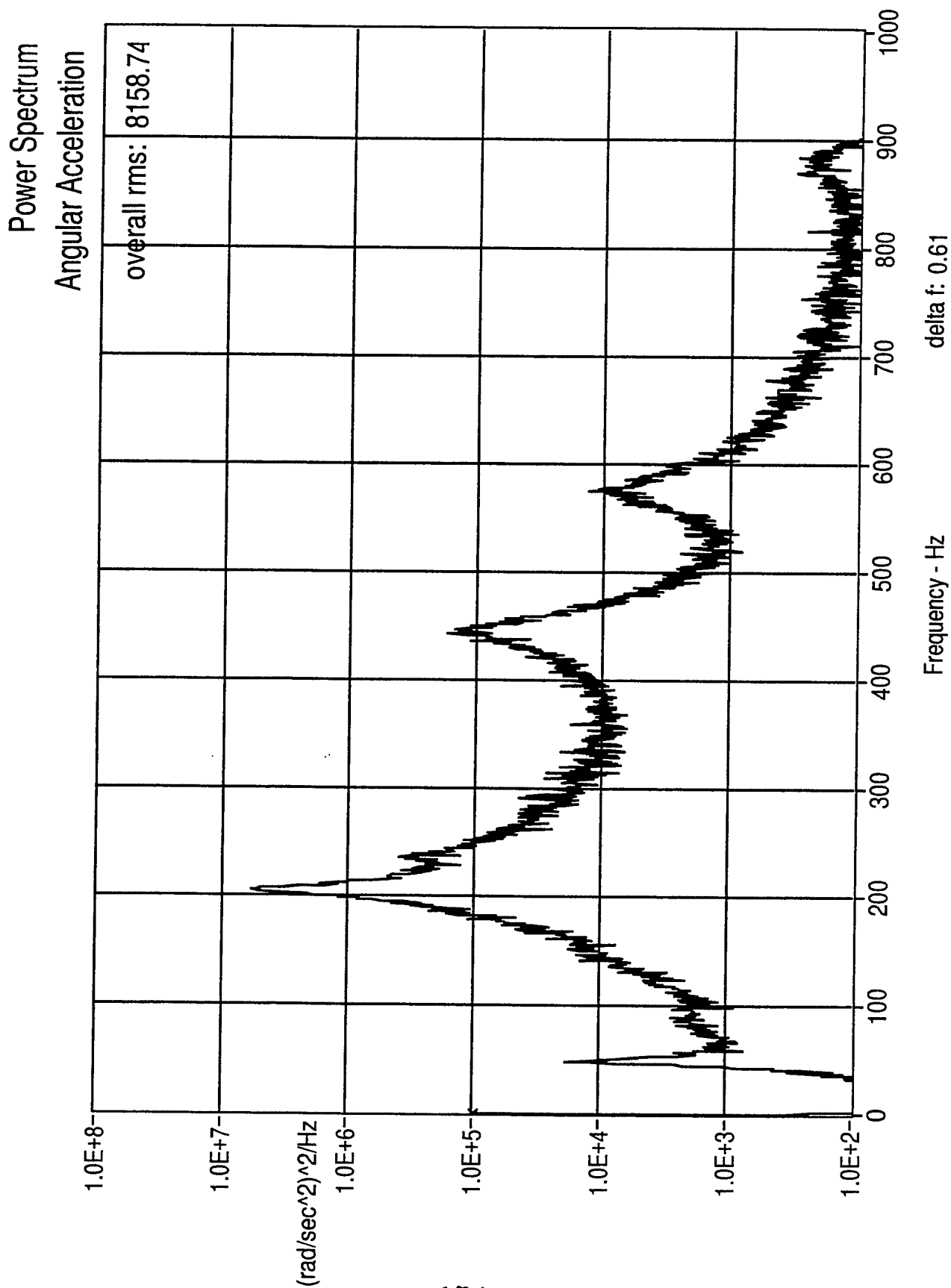


F-15 TPN_3269: q=30 alpha=24 beta=4 bp=0

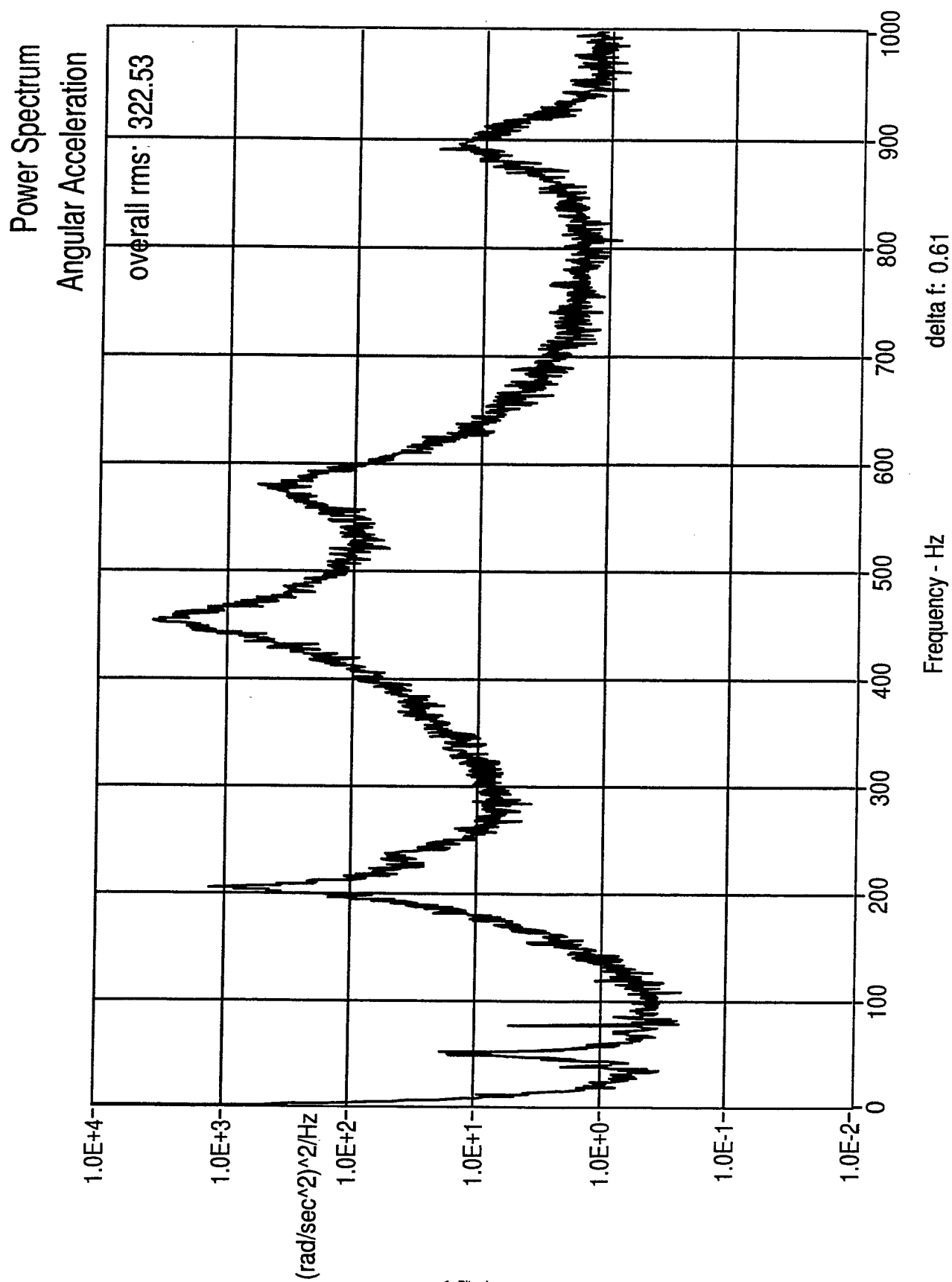
Power Spectrum
Angular Acceleration



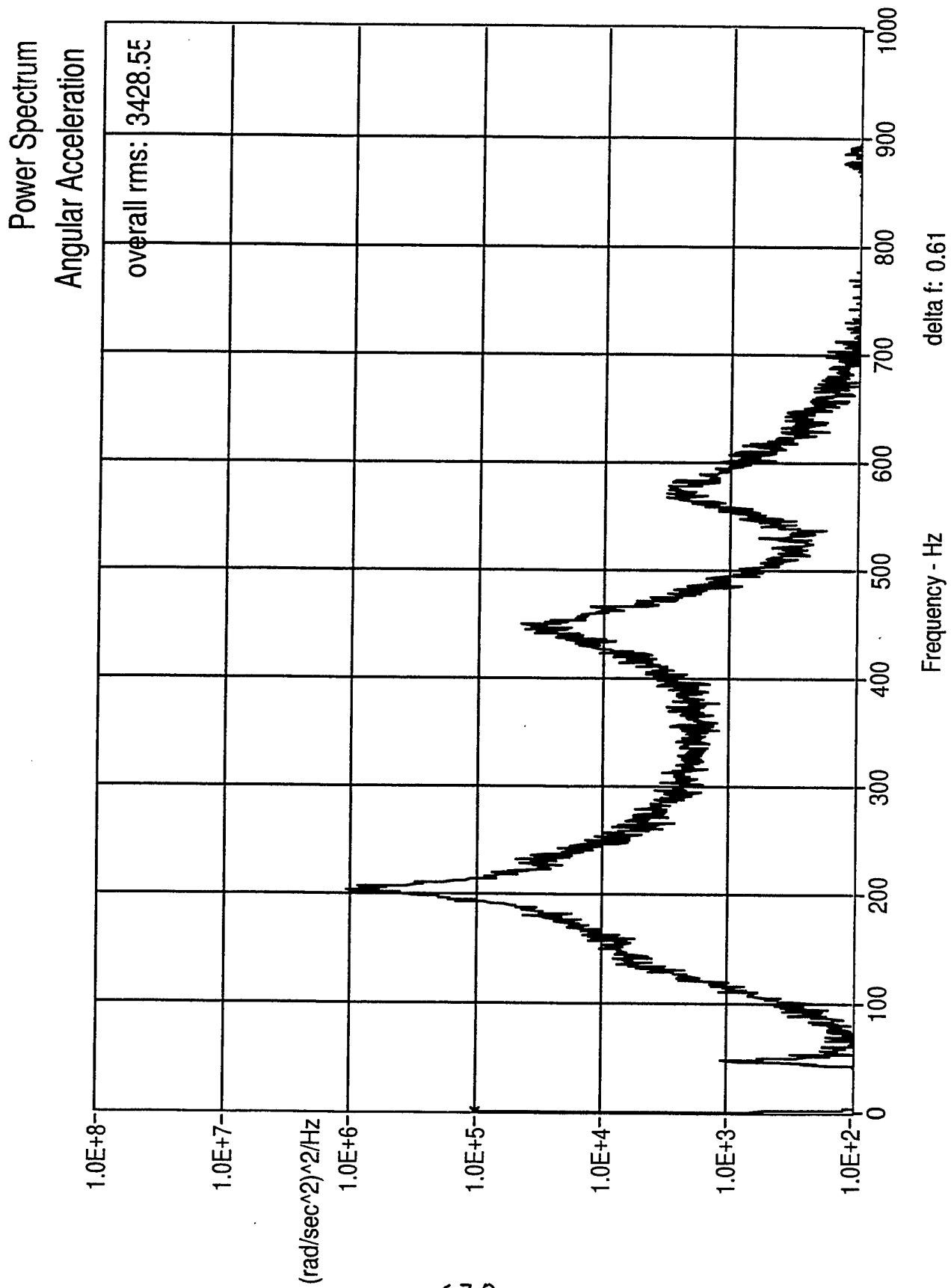
F-15 TPN_3271: q=30 alpha=32 beta=4 bp=0



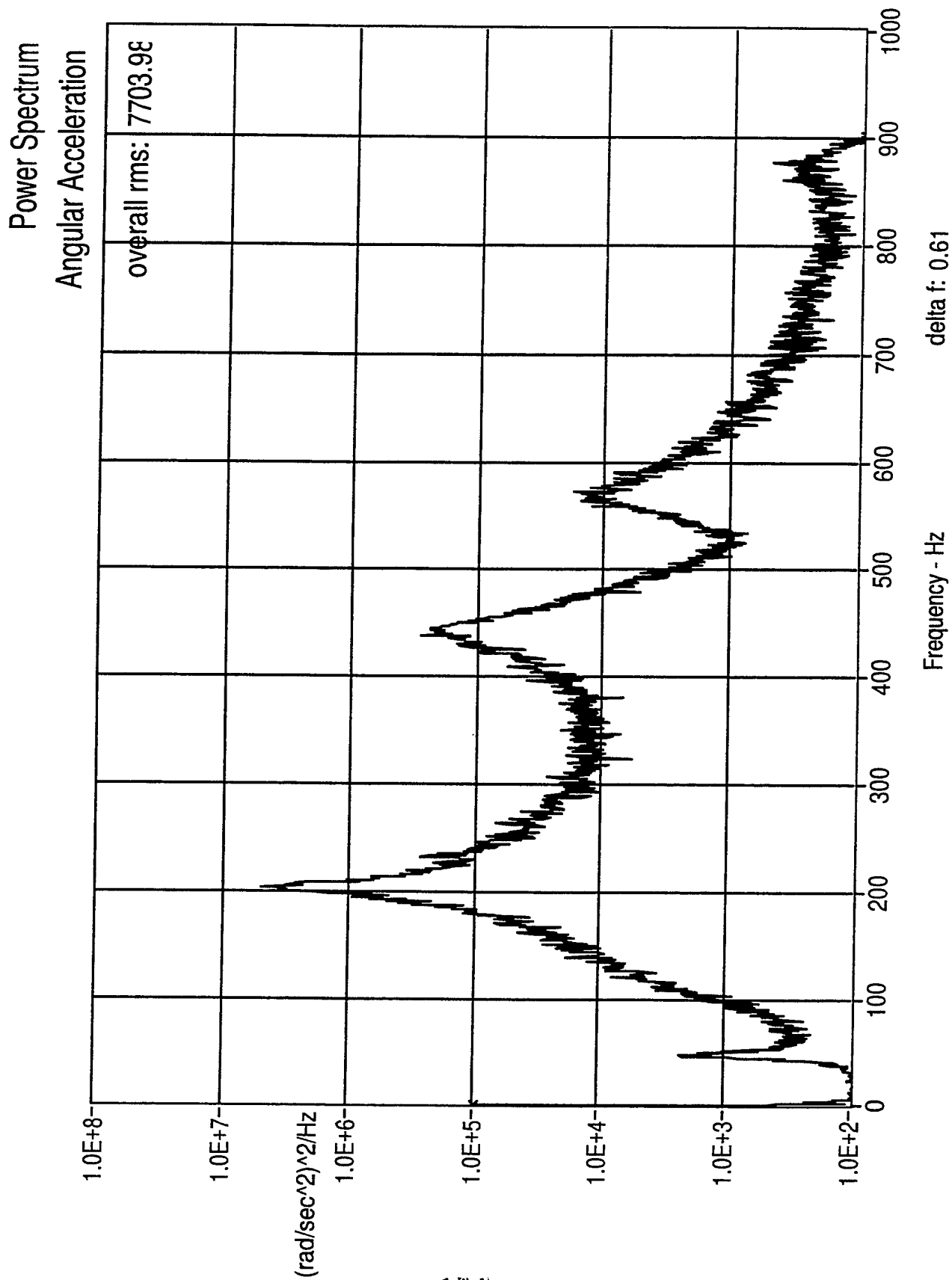
F-15 TPN_3297: q=30 alpha=8 beta=0 bp=45



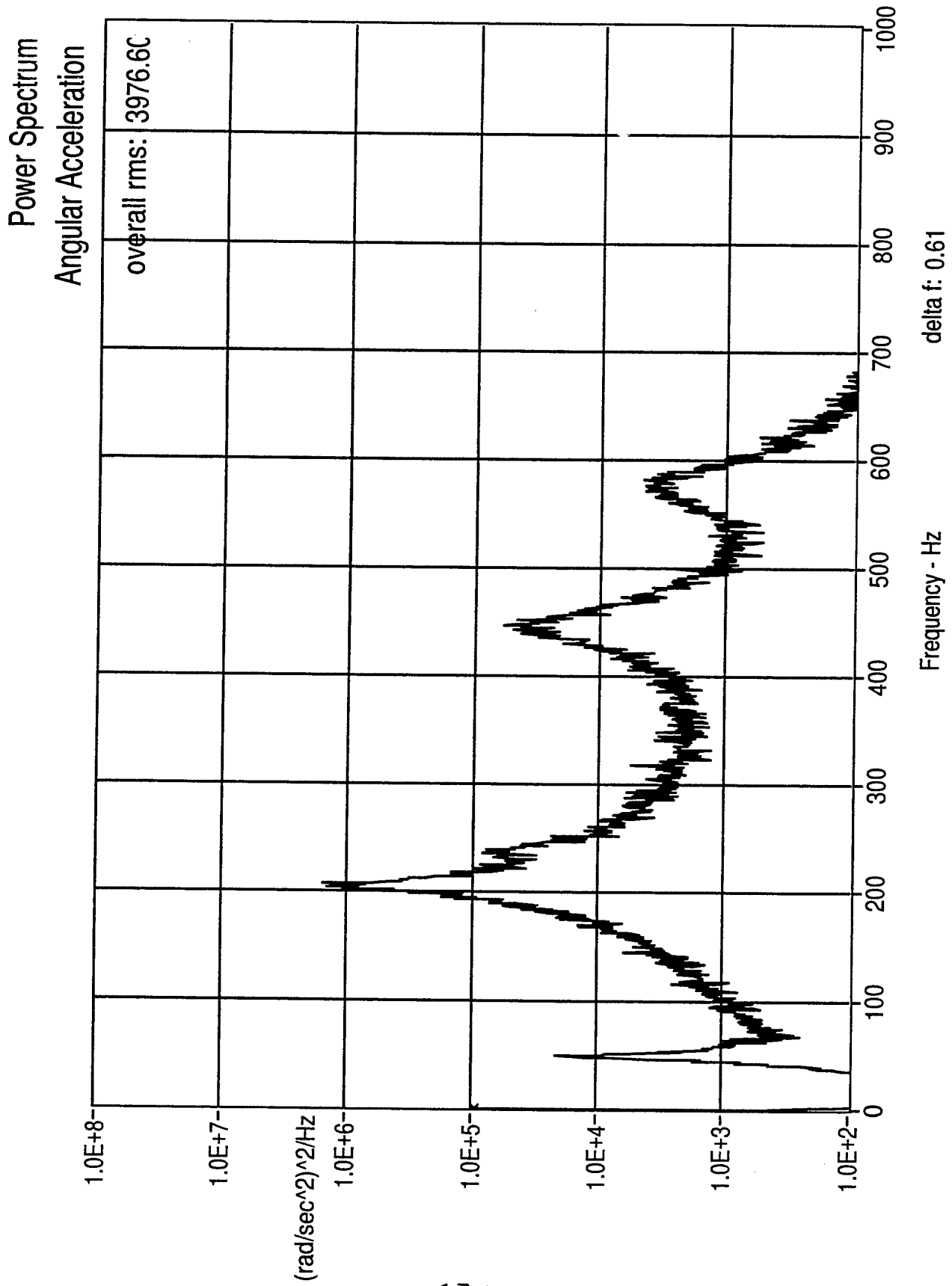
F-15 TPN_3303: q=30 alpha=20 beta=0 bp=45



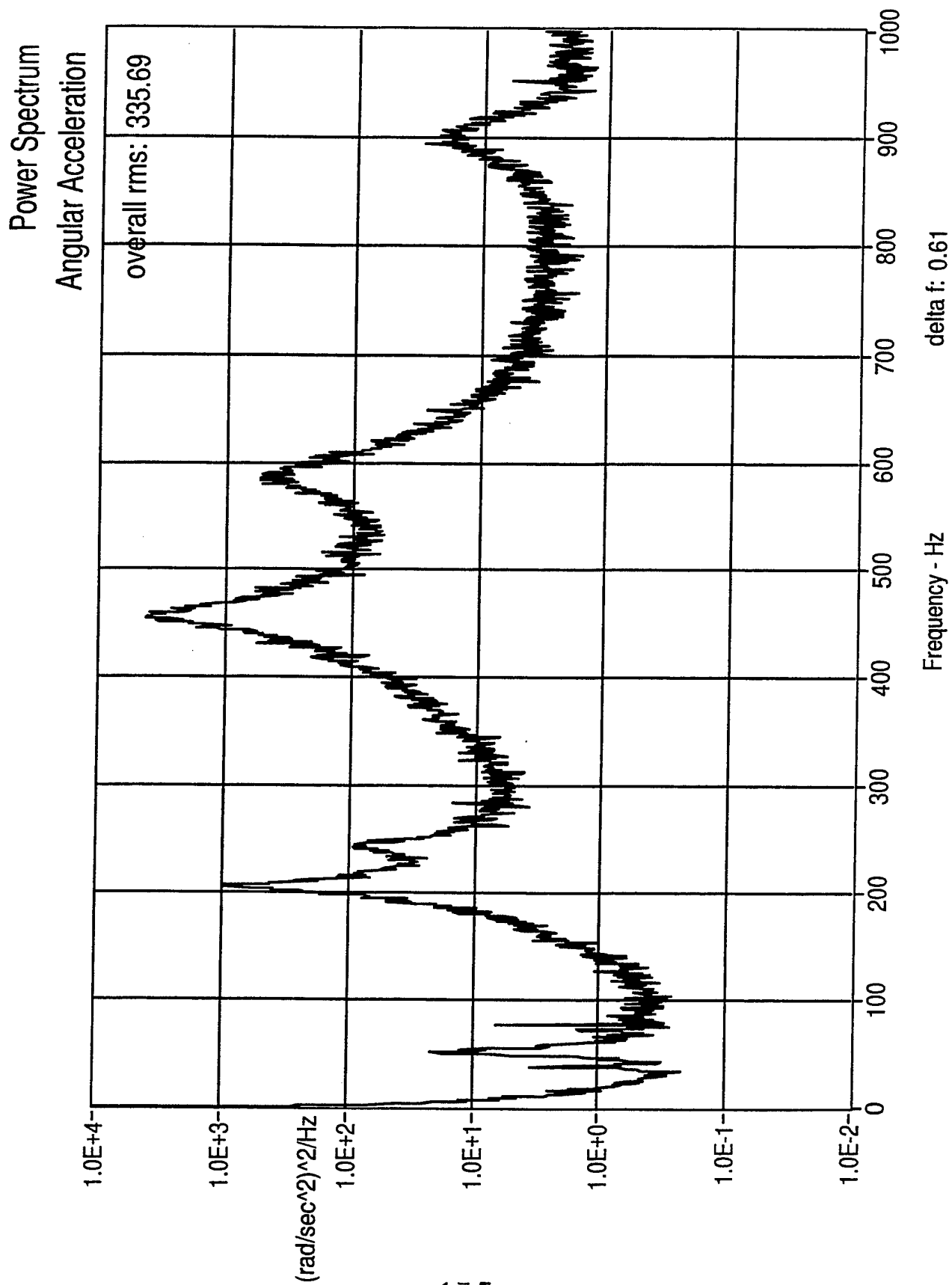
F-15 TPN_3305: q=30 alpha=24 beta=0 bp=45



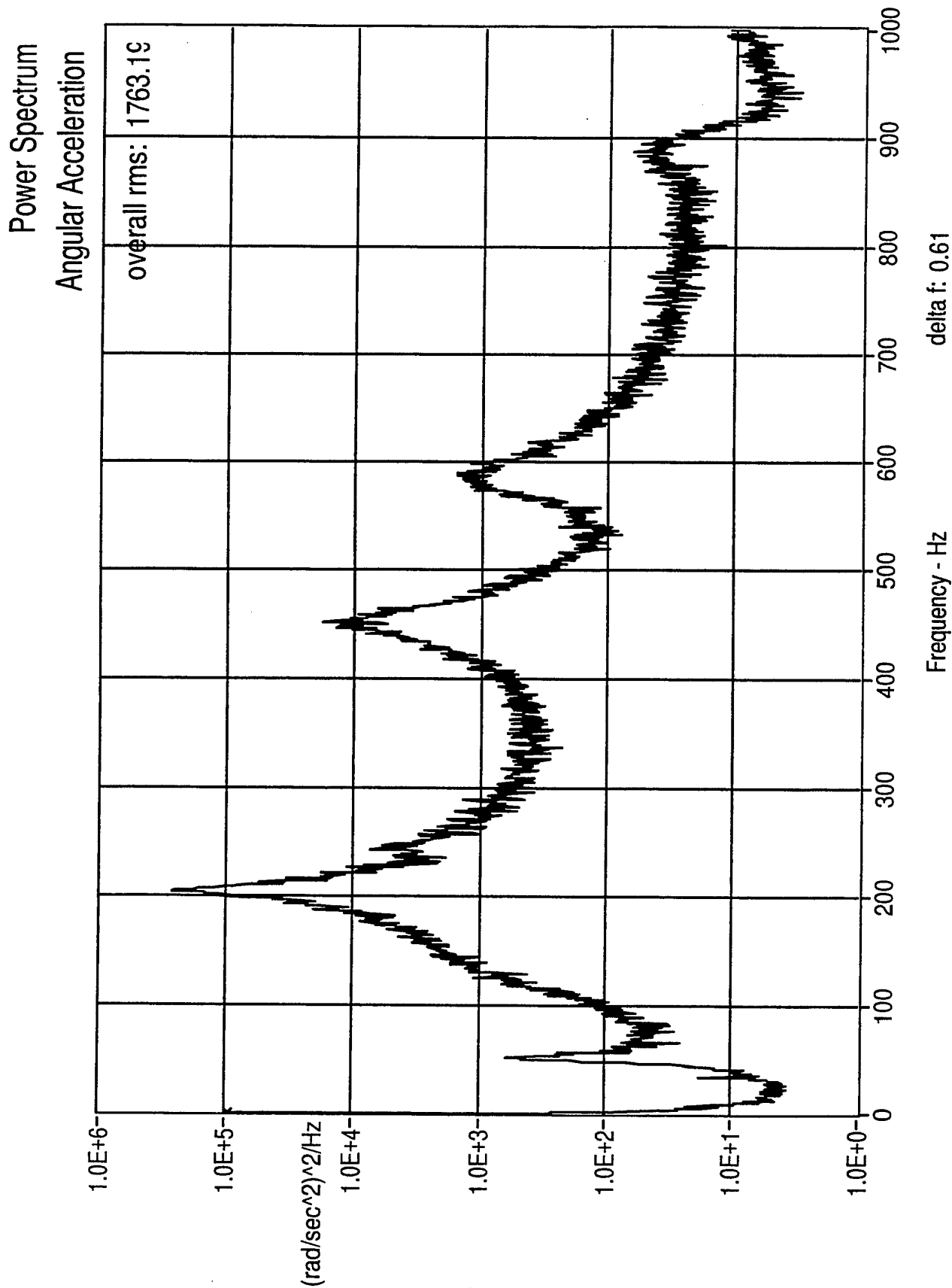
F-15 TPN_3307: q=30 alpha=32 beta=0 bp=45



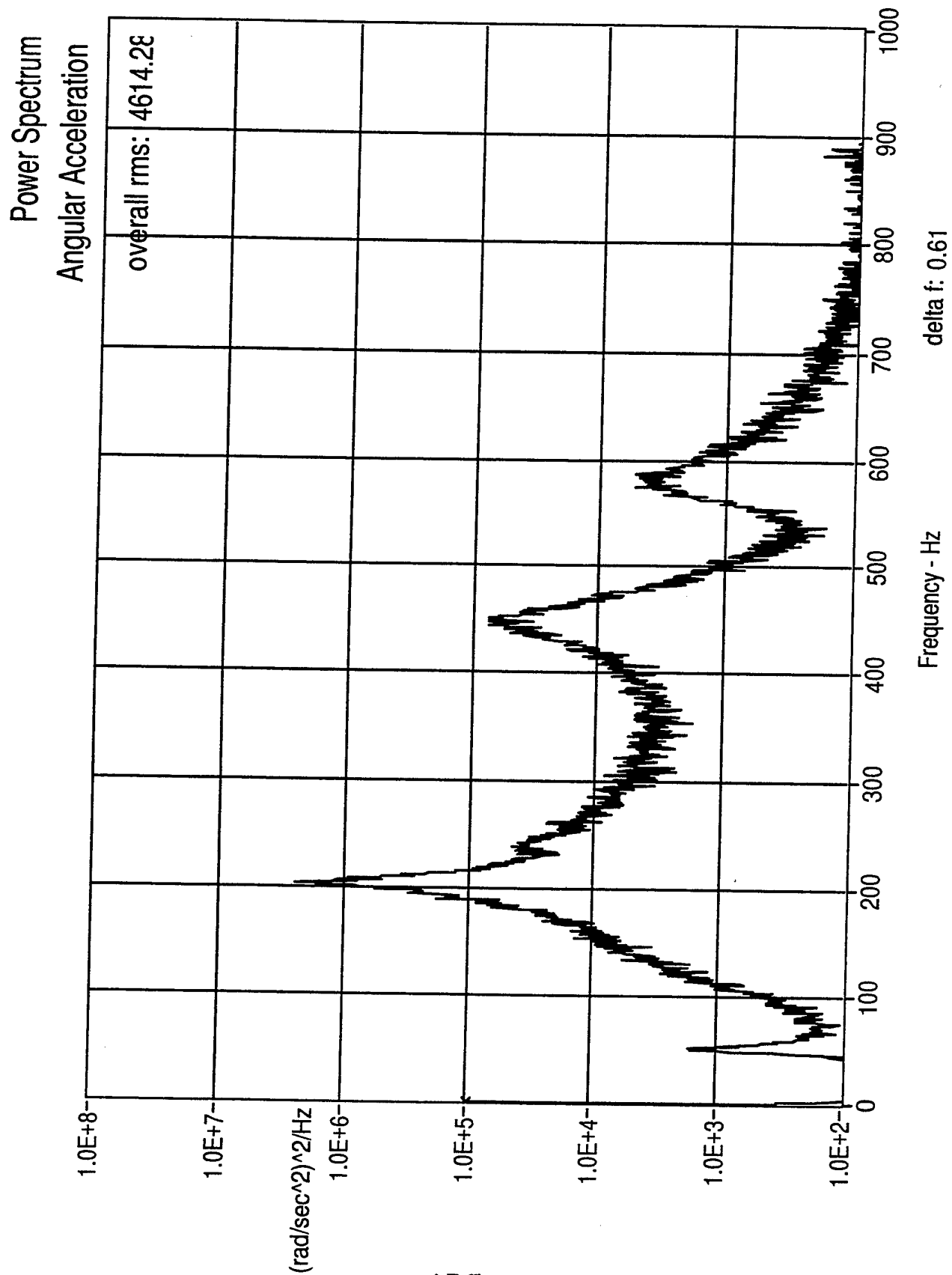
F-15 TPN_3315: q=30 alpha=8 beta=4 bp=45



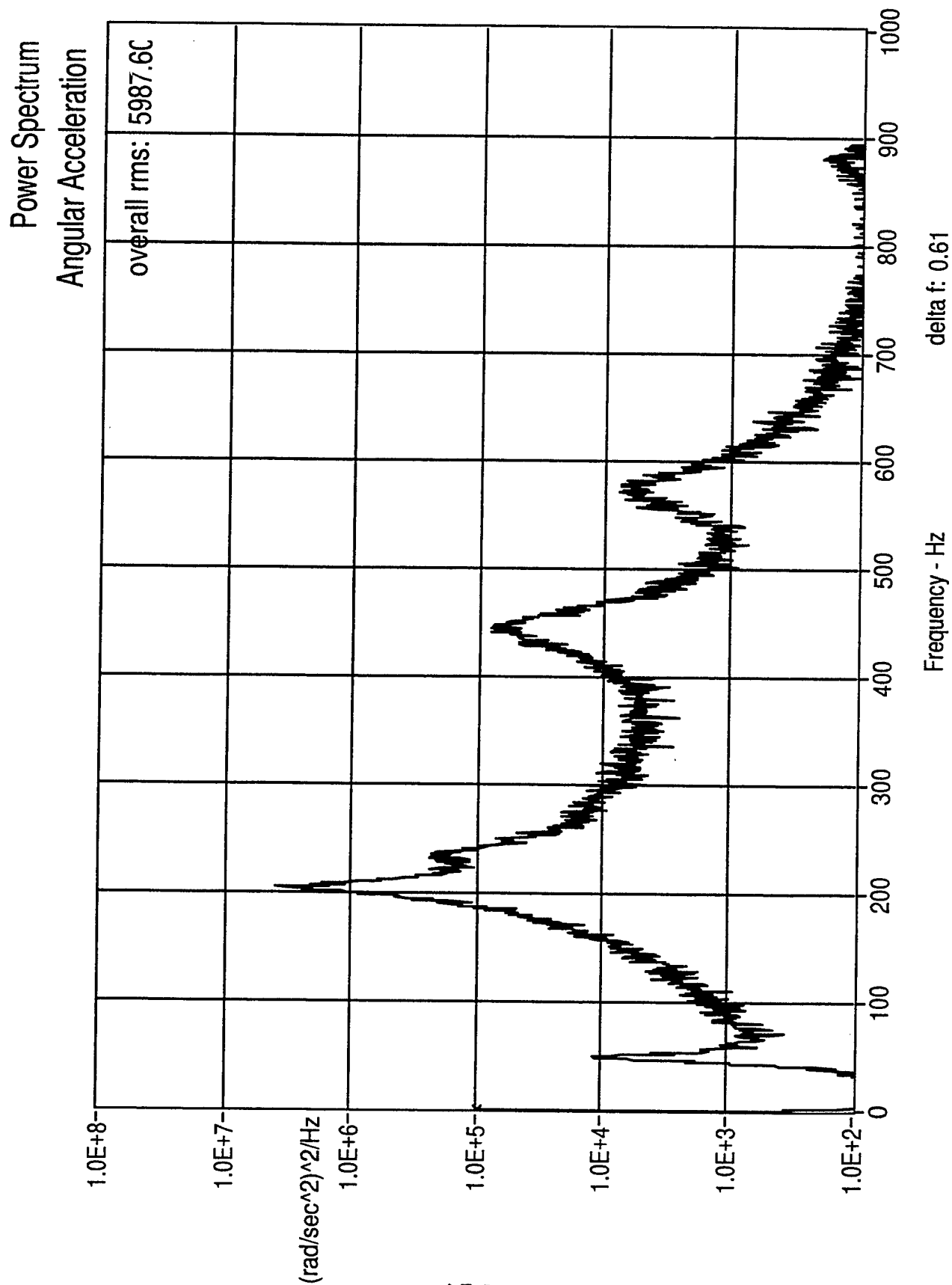
F-15 TPN_3321: q=30 alpha=20 beta=4 bp=45



F-15 TPN_3323: q=30 alpha=24 beta=4 bp=45



F-15 TPN_3325: q=30 alpha=32 beta=4 bp=45



**FLEXIBLE TAIL RESPONSE
ACCELERATION DATA
FLEXIBLE TAIL RESPONSE
ACCELERATION DATA**

**4.2 RMS SUMMARY TABS , Q = 30, 56 PSF, ALPHAS = 8, 20, 24, 32 DEG,
BETA = 0, +4, -4 Deg, WBP = 0, 45, 65* psi**

*** only for Q=56**

F-15 Vertical Tail Buffet Test: Overall RMS of acceleration data (g, 1-1000 Hz)

0 psi blowing pressure:

Beta = -4:

		Q = 56 psf			
		fwd	aft	linear	angular
Alpha:	8	1.85	2.36	1.67	410.6
	20	55.51	45.66	21.70	13558.6
	24	60.42	44.25	24.60	13671.1
	32	25.09	33.74	23.21	5892.8

Beta = 0:

		Q = 56 psf			
		fwd	aft	linear	angular
Alpha:	8	1.93	2.35	1.67	421.7
	20	38.08	32.52	15.46	9430.8
	24	73.06	54.40	26.06	17226.3
	32	30.35	41.03	28.11	7180.3

		Q = 30 psf			
		fwd	aft	linear	angular
	8	1.63	1.44	1.08	323.1
	20	19.52	16.86	6.70	5032.0
	24	42.17	33.12	16.84	9975.2
	32	19.37	21.27	14.84	4291.4

Beta = 4:

		Q = 56 psf			
		fwd	aft	linear	angular
Alpha:	8	1.60	1.95	1.39	348.7
	20	20.41	17.28	7.79	5098.7
	24	59.10	45.49	21.26	14157.9
	32	46.97	49.83	34.08	10431.4

		Q = 30 psf			
		fwd	aft	linear	angular
	8	1.43	1.33	.96	296.5
	20	9.03	7.54	3.38	2246.8
	24	28.22	22.55	10.15	6901.8
	32	33.99	34.26	20.72	8158.7

45 psi blowing pressure:

Beta = -4:

		Q = 56 psf			
		fwd	aft	linear	angular
Alpha:	8	2.87	2.77	1.87	629.1
	20	49.07	42.84	18.95	12455.9
	24	75.22	61.12	29.26	18261.6
	32	30.57	38.61	27.31	6783.8

Beta = 0:

		Q = 56 psf			
		fwd	aft	linear	angular
Alpha:	8	2.35	2.57	1.78	519.9
	20	37.05	33.75	13.30	9790.2
	24	77.34	60.09	27.94	18605.6
	32	39.71	46.57	32.12	8950.6

		Q = 30 psf			
		fwd	aft	linear	angular
	8	1.59	1.36	1.00	322.5
	20	13.29	12.35	5.71	3428.6
	24	31.39	25.83	12.02	7704.0
	32	18.34	19.96	14.04	3976.6

Beta = 4:

		Q = 56 psf			
		fwd	aft	linear	angular
Alpha:	8	2.52	2.66	1.83	556.9
	20	19.82	16.87	6.88	5056.5
	24	52.55	42.32	19.47	12831.2
	32	53.22	57.41	39.27	11859.7

		Q = 30 psf			
		fwd	aft	linear	angular
	8	1.65	1.39	1.01	335.7
	20	7.26	6.32	3.30	1763.2
	24	18.74	15.44	7.10	4614.3
	32	25.09	28.12	18.05	5987.6

65 psi blowing pressure:

Beta = -4:

		Q = 56 psf			
		fwd	aft	linear	angular
Alpha:	8				
	20	54.10	46.60	20.36	13693.0
	24	75.18	58.11	28.78	17806.4
	32				

Beta = 0:

		Q = 56 psf			
		fwd	aft	linear	angular
Alpha:	8				
	20	43.68	38.60	15.38	11364.8
	24	83.28	63.76	28.84	20042.1
	32				

Beta = 4:

		Q = 56 psf			
		fwd	aft	linear	angular
Alpha:	8				
	20	23.71	20.02	8.02	6044.7
	24	59.50	46.16	20.77	14398.3
	32				